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VOLUME 16 ISSUE 3 MAY-JUNE 2019

MEDIA + PRODUCTION + MANAGEMENT + DELIVERY

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**CONTENT+TECHNOLOGY:**  
ISSN 1448-9554 PP:255003/06831  
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**PRINTING:** The SOS Print+Media Group (Aust) Pty Ltd  
**COPYRIGHT NOTICE:** All material in Broadcastpapers'

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# The Names Change, but will the Song Remain the Same?

By Phil Sandberg



## AUSTRALIA HAS A NEW FEDERAL MINISTER

for Communications, Cyber Safety and the Arts in the form of Paul Fletcher. Mr Fletcher's appointment follows a post-election cabinet reshuffle by Prime Minister Scott Morrison. So, how does he stack up against his predecessor, Senator Mitch Fifield, who has been announced

as the next Ambassador and Permanent Representative of Australia to the United Nations?

Quite well it seems. The Member for Bradfield in Sydney's north, Fletcher was most recently the Minister for Families and Social Services, but his experience in the communications sector is considerable having also served as: Minister for Urban Infrastructure; Minister for Urban Infrastructure; Minister for Major Projects, Territories and Local Government; and Parliamentary Secretary from 2013-15 to the then Minister for Communications, Malcolm Turnbull.

He also served as Director, Corporate & Regulatory Affairs with SingTel Optus, and Senior Adviser/Chief of Staff from 1996-2000 to Howard Government Minister for Communications, Senator Richard Alston.

All of which, perhaps, makes him the most qualified Communications Minister since Michael Lee, of the Hawke-Keating years, who was a qualified electrical engineer.

"I am deeply honoured to be appointed as Minister for Communications, Cybersafety and the Arts," said Fletcher on the announcement of his new position.

"The communications sector serves a vital human need - for people to communicate with each other - and makes a critical economic and social contribution to our nation. As Minister I will aim to take forward policy settings which maximise this contribution.

"With many parts of the communications sector facing profound and continuing change, sound policy settings will be more important than ever."

Fletcher says a key priority will be completing the rollout of the NBN (National Broadband Network). His appointment has been welcomed by industry body, The Communications Alliance, whose CEO, John Stanton, has said Mr Fletcher's commercial experience in the communications sector and deep knowledge

of the industry would be key attributes as the Government engages on a wide-ranging array of necessary reforms.

"I think Paul recognises, better than most, that a balance needs to be struck between the imposition and costs imposed on industry and consumers by additional layers of regulation, compared with the benefits that can be generated.

"We look forward to working with the new Minister," said Stanton.

Paul Fletcher's appointment was also welcomed by Network 10.

A statement from the Network said, "Paul Fletcher is a great choice for the Communications portfolio. He is smart, pragmatic and has a deep understanding of our industry.

"Paul is definitely the right person to be dealing with the big and complex issues that need to be sorted in this area"

One of those complex issues is the operation of the ABC and SBS. He must temper the ideologues within both the Parliamentary coalition parties, and the rank and file, who would see the ABC, in particular, defunded, carved up and sold off. The economic impacts of that would adversely affect audiences, content creators and technology providers alike.

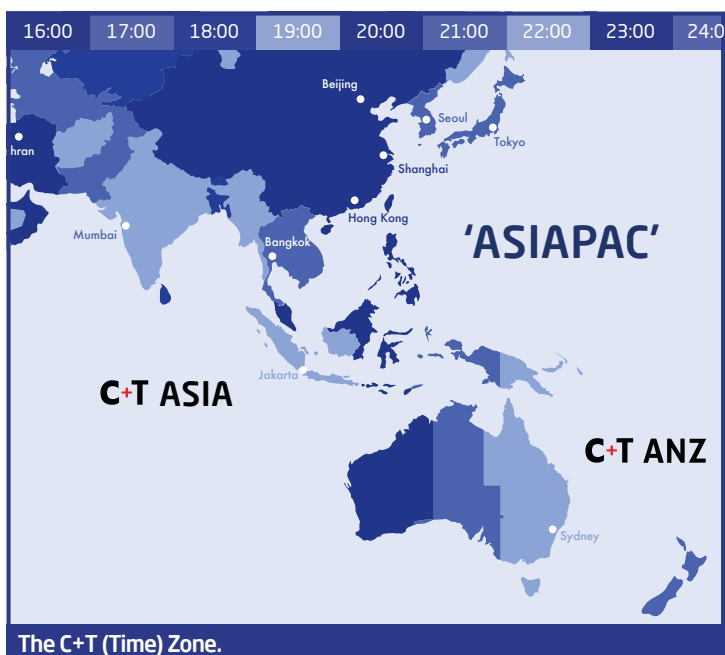
Perhaps the new Minister will be able to sing a new song.



Thanks for reading

Phil Sandberg – Editor/Publisher

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## C+T 2019 C+T DEADLINES

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Ad Artwork:	24-06-19

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#### AUGUST-SEPTEMBER

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## NEP Australia Delivers IAAF World Relays Coverage from 7800km Away

**NEP GROUP, ONE OF THE WORLD'S LEADING** outsourced technical production partners for premier content producers of live sports and entertainment, has achieved a milestone in sports broadcasting with the successful live, remote production from Sydney of the IAAF World Relays 2019 held in Yokohama, Japan (11-12 May).

On behalf of their clients, NEP's multidivisional teams delivered two days of live coverage and competition highlights from NEP Australia's centralised, internet protocol (IP) and multi-format production facility at the NEP Andrews Hub in Sydney, NSW.

On-location hardware and crews from NEP UK covered the event and 30 high definition (HD) signals - comprising the 17 main cameras, including two Sony HDC4800 cameras in ultra-high frame rate, plus graphics in Yokohama - were linked via diverse and hitless 10 gigabit-per-second circuits on the Telstra Distributed Production Network (DPN) and sent on to Sydney, 7,800km away, using VC 2 ultra-low-latency compression technology.

Production crew and hardware were based at the Sydney Andrews Hub while shading crew were based in Japan. The finished programming was then transmitted from the Hub to broadcast rights holders around the world.

ITN, Telstra, and NEP's UK, Japan and Australia teams worked in concert, showcasing the use of IP technology and extreme low latency compression.

Soames Treffry, President of NEP Australia, said, "The IAAF World Relays extend the 'hub and spoke, anyone, anywhere' concept that NEP's Andrews Hubs were built on, meaning people can work from any location so long as

they're connected to our network.

"This milestone project cements the reality of working across multiple geographies and reflects our strategy to deploy permanent facilities in key markets which all share the same resources - both human and technical - to meet critical industry needs.

"It also showcases the breadth and scale of NEP's client offerings across regions, and we thank IAAF Productions and ITN for their confidence in NEP's ability to deliver this marquee event via our Andrews Hubs."

Steve Jenkins, President NEP UK and Ireland, added, "We've had a long-standing relationship with ITN and the IAAF, and it has been great to work with them and our colleagues across the NEP Group to offer ground-breaking solutions. NEP's full suite of solutions means we can

offer ITN and all our clients agile, fit-for-purpose technical services - whether configured from hub, spoke, flypack or truck.

"Importantly, our clients can be confident that we have the talent and expertise to combine these services and deliver exactly what, where and how our clients need them. We're looking forward to further building on these new technologies and our relationship with ITN and IAAF at the World Championships in Doha."

The success of this event further provides NEP with the momentum to support plans to offer creative productions in locations across the world.

Visit [www.nepgroup.com](http://www.nepgroup.com)



## Get Your Workflow Migration Down PAT with IP Seminar 2.0

**PROMOTING EDUCATION AND WELL AS SOLUTIONS** for those looking at migrating to IP-based video workflows, Professional Audio and Television (PAT) is staging the IP Seminar 2.0 in Sydney July 19th and Auckland July 23rd.

According to Managing Director Patrick Salloch, "We started the IP Seminar last year and the idea was borne out of what we felt that there was a need for our core manufacturers, like Lawo and Arista, to go beyond the shiny brochures and actually sit down with engineers and discuss engineering topics that the change from the baseband to IP in a broadcast system would bring with it. Last year we had, of course, Marc Segar from NEP talk about the NEP Project and what they had planned to do and how they rolled it out in a very, very short timeframe."

This year, the PAT IP Seminar will examine lessons learned since then and feature a new keynote speaker, Dennis Dovale, Senior Manager Technology (Media Division) at Tabcorp/Sky Racing, who will discuss the sports broadcaster's 2110 migration route.

"He will talk about why they've made certain choices and what their plans are and what they've already done and what the future will hold for them," says Salloch, "which I think is always interesting as a customer and as a user to see what other institutions that are out there that are kind of undertaking the same journey that you are considering, or that you've already done."

"We will focus on the automation, the operationalisation of IP. In other words, making IP work from an operational perspective where you have staff, for example, in the MCR that were used to overshadowing a large SDI system, how they're going to do that now in an IP environment, how do they do fault finding? We thought it was time to do a take two on the IP Seminar, see what lessons have we learnt, and where we're going to go from here."

"I think some of the lessons that we've learnt is certainly that while IP brings greater flexibility, remote production being one of them, for example, there's

also a level of complexity that brings with it, and that is forcing organisational change. For example, if you look what an IT Department used to do, and now is the IT Department going to be in charge of the broadcast network? Or is the IT Department still just looking after the printers, the VOID phones? I think there is an operational change that has to happen in regards to moving to IP, and I think that's one of the things that we've learnt that customers have to be very much aware of.

"I think some of the misconceptions that we certainly encounter is that it's a plug and play situation, which it isn't. It isn't plug and play. I think that there has to be a significant amount of operational knowledge in regards to the technology you're rolling out. How are you going to deal with it? How are you going to train your staff to fault find? How are you going to train your staff to reconfigure this?"

"We think that the lessons that we've learnt along the way are important and of interest to people."

The PAT IP Seminar 2.0, takes place in Sydney on the 19th of July at the Novatel, Darling Square from 9.00am to 5.00pm, and in Auckland on July the 23rd (9.00am to 5.00pm) at the Sofitel in Auckland Viaduct Harbour. Both events are free and will be followed by refreshments.

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**Blackmagic URSA Mini Pro 4.6K G2 ..... \$9,105**

Learn more at [www.blackmagicdesign.com/au](http://www.blackmagicdesign.com/au)

Viewfinder, lens and accessories shown can be purchased separately.



## OTT, IP, HDR and More at METexpo2019

Andrew King is Chair of SMPTE's Media + Entertainment Tech Expo Conference. Here he talks to C+T about what attendees can expect.

**SCHEDULED FOR JULY 17-19, 2019**, at Sydney's International Convention Centre, the Media + Entertainment Tech Expo (METexpo) Conference & Exhibition will feature a line-up of the latest technology exhibits and technical presentations. Conference Chair, Andrew King, says this year's event will be packed.

"We're putting together what I think will be quite an exciting conference," he says. "We have really a lot of papers on the hot topics of the day, being a couple of groups - all things 2110 and IP infrastructure, as well as quite a lot come on over-the-top (OTT) delivery. We're also looking at future transmission technologies and the developments around ways we might broadcast in the future and then we've brought in a couple of other groups that have got special interest.

"We're partnering with WIFT, the Women in Film and Technology, who are going to have a session on things that are of great interest to them, and the Australian Cinematographers Society. They've got a number of interesting sessions for cinematographers in terms of measuring colour reproduction and how to shoot, now that we've got large screen sensors, the technology moving on, as well as a session about the fantastic Australian movie, *Ladies in Black*, with DOP Peter James.

**C+T: There are also papers High Dynamic Range or HDR?**

"Yes. I've got one up my sleeve at the moment on HDR looking at further developments in HDR. I've got something on the key success factors for live UHD HDR service delivery. We've also got (3:12) wanting to discuss the impact of UHD HDR wide colour gamut and their impact on live camera control solutions. HDR is always a hot topic, so to speak.

**What role will the SMPTE 2110 suite of standards for IP-based media applications play?**

"We'll be having a session principally presented by Paul Briscoe from Canada who's been involved in the standardisation group that can show now how it's more than just 2110. It's the foundation, it's the transport layer, but there's all these other things that you need to know about about what goes on top and

making it a purely open networked digital system.

"On the other side, people will be talking about how virtualisation works into this. We've got a session on best practices for [BTP] and media flow monitoring and another one looking at the impact on camera workflows. I think we're at that point now where people are ready to say you can now plug in your blue lead and they should be able to talk together.

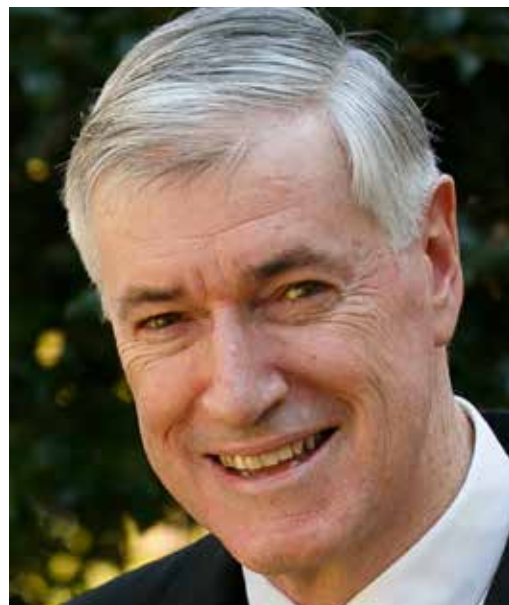
**Virtual and augmented reality are also on the conference agenda?**

"One of the things we've got in that regard is we're going to have a panel session on this, which is basically dealing with the work that is being pulled together by [mediatech incubator] The Studio."

**What role will OTT play in this year's conference?**

"I think the main thing that people want to talk about in that regard are how to optimise the service, what's state of the art these days, how to get a better-quality experience and how to do it at a lower operating cost. I think these are the sort of things that the OTT operators will all want to know about."

Visit [www.metexpo.com.au](http://www.metexpo.com.au)



## IP Showcase to Make Australian Debut at Media + Entertainment Tech Expo

### THE AUSTRALIA SECTION

of the Society of Motion Picture and Television Engineers (SMPTE), the Alliance for IP Media Solutions (AIMS), and the IABM have announced that they will stage an IP Showcase for the first time in Australia in conjunction with Media + Entertainment Tech Expo (METExpo 2019) in Sydney, 17-19 July.

The IP Showcase at METExpo 2019 will be an education and demonstration pavilion highlighting the benefits of and momentum behind the move to standards-based IP for real-time professional media across an extensive range of applications and users, from television and film to pro AV, small facilities, and independent operations.

Visitors will be able to see first-hand a collection of hardware and software, integrated and operating, with presentations on technical topics, case studies, and architectures enabled by the SMPTE ST 2110 family of open standards.



The IP Showcase will feature the leading-edge collaborative industry work being facilitated by industry partners, including: the Audio Engineering Society (AES), AIMS, the Advanced Media Workflow Association (AMWA), European Broadcasting Union (EBU), the IABM, SMPTE, and the Video Services Forum (VSF).

The presentation stages at previous IP Showcase Theatres have been visited by hundreds of attendees each day at shows since 2016, often with standing-room-only crowds. With the growing interest in IP implementation by broadcasters worldwide, attendance at METExpo2019 is expected to be

strong. The significant early adoption of SMPTE ST 2110 products and architectures by broadcasters and outside broadcast providers in Australia is paving the way for uptake by the audiovisual industry segment and other adjacent industries. Speakers presenting at the METExpo2019 IP

Showcase Theatre offer their unique viewpoints on IP video and audio for production using SMPTE ST 2110 and AES67, as well as on the latest developments in the AMWA NMOS technology stack. The IP Showcase will take place on the show floor of the International Convention Centre Sydney as part of the IP Pavilion at METExpo 2019 and will be open to all visitors.

For more information on the IP Showcase and presentations, contact John Maizels via [smptej@optusnet.com.au](mailto:smptej@optusnet.com.au)

Visit [www.aimsalliance.org](http://www.aimsalliance.org), [www.smppte.org.au](http://www.smppte.org.au) and [www.metexpo.com.au](http://www.metexpo.com.au)



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Power Core<sup>RP</sup>

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## Sydney Uni Goes 4K with Digistor and Editshare

**THE UNIVERSITY OF SYDNEY** may seem an unlikely setting for cutting-edge 4K production, but in recent years the University's Learning Media Team have had to meet an ever-increasing requirement to produce high quality video content for students in Australia and beyond. To meet this demand, the team turned to Digistor and Editshare.

According to the head of the University's Learning Media Team, Tom Cavdarovski, "Our team of five produce educational videos for both international and on-campus students, and the Learning Media Team has grown rapidly over the last three years in order to meet the growing demand for quality video content in 4K. Our legacy direct attach storage (DAS) system was not designed to work in a multi-project environment, so we turned to Digistor to help us find a central media solution which would streamline our production workflow and integrate with existing university systems.

"Based on Digistor's expertise and recommendation we chose the Editshare XStream EFS 300 Node 96TB system. This included 82TB of usable storage, a 10GB ethernet RJ45 switch and 10 Licenses of Flow. The Editshare XStream was an ideal solution as we were after a relatively small and simple set up with minimum administrative overhead. It also easily integrated with our existing IT systems ensuring the new server was secure and robust. We have both a Mac and Windows environment and connect our seven client machines via a Thunderbolt converter and Cat6A cables, so the new Editshare XStream system had to be able to work seamlessly within this environment, which it did."

The Learning Media team's projects can have anywhere from one to sixty videos being produced at any one time and all must be able to be edited by any one of the team at any time.

Cavdarovski added, "The team now work primarily in Creative Cloud and use common templates and branding assets for all projects. This was not possible to do with our previous set-up. By having a centralised media asset management (MAM) workflow we now streamline our processes on a daily basis. When we first did a needs analysis to ramp up our production output, it was obvious we were losing valuable time trying to manage files across incompatible systems and protocols. The new Editshare XStream solution supplied by Digistor saves us that time by being efficient and effective."



When working on videos the team's main input consists of 4K video and podcast audio files. They shoot with Blackmagic URSA and Studio cameras, Sony FS7, Panasonic GH4 and 5 DSLR, OSMO and Mavic drone cameras. Their delivery output is 1080p and includes web-based channels including YouTube, Coursera and Arc video platforms.

"Editshare represented a robust system that didn't need a full-time onsite technician to run the server – this was important to us as we needed a solution that was relatively low cost," added Cavdarovski. "The XStream model also had the speed and throughput to ensure the editors could scrub through 4K files without any significant lag or compromise in quality. As a result, we can now easily adjust to proxies if we need to, but generally we can use it at 4K preview quality for the early phases of editing."

According to Cavdarovski the Editshare solution supplied by Digistor not only satisfied current requirements but has very much added value to the university as he explained, "Our Editshare media server now does everything we ask of it and it has also increased our output significantly. We are delivering our large video projects on time and we no longer have production bottlenecks. This gives us a cost saving that enables the team to invest more time in creating higher quality videos that better meet our customer needs."

Visit [www.digistor.com.au](http://www.digistor.com.au)

## PEOPLE MOVES



**STEPHEN EDWARDS** has been appointed Chief Technology Officer with Foxtel. He was previously Head of Technology and then Director of Technology and Infrastructure with FOX SPORTS Australia. He was also Head of Engineering with Gearhouse Broadcast Australia, and held Broadcast Engineer positions with Presteigne Charter and Viacom.

**PETER WILLIAMS** has taken up the role of Director with Myalpa SatComs. He was previously Australian Representative for Sunshine Cambodia and, prior to that, held various positions with Singtel Optus.

**TONY FOX** has been appointed Manager of design and broadcast company Smith Street Co. His other roles have included Manager – WIN Television Hobart, and Network Head of NewsGraphics with the Seven Network.

**RANDALL TITUS** is now at Blonde Robot, taking on the position of Video Sales Manager. He joins the mediatech importer and distributor from Avid Technology where he served as Partner Account Manager ANZ & SEA. Prior to Avid, Mr Titus held various roles with Sony Australia, including Senior National Sales Executive Professional Solutions & Pro Media.

## Armstrong, Hollingsworth Take on Management Roles with Spectrum Films

**SPECTRUM FILM'S CATHERINE ARMSTRONG** has been promoted to General Manager, Sydney, while Dave Hollingsworth has joined the company as Executive Director.

With both roles reporting directly to Managing Director Josh Pomeranz, the announcement comes as General Manager Adam Scott leaves the company to take up the role of Post Partner Engagement Manager (APAC) at Netflix in Singapore.

Previously Head of Post Production, Armstrong will be responsible for the running of the Sydney operation, whilst continuing to oversee the seamless integration of production for clients.

Until recently Director of Post Production at Blue Post, Hollingsworth will be responsible for overseeing the technical operation and workflow architecture as well as the company's strategic growth – both in Australia and internationally.

Together Armstrong and Hollingsworth will be responsible for domestic and international business development whilst working in tandem with filmmakers and content creators to further develop and grow the company's service and offering.

"Over the past three years, Catherine Armstrong has made an outstanding contribution to the company and this promotion is a natural progression for her – and we are delighted to have Dave Hollingsworth join the organisation whose skills and experience will complement our solid team" said Josh Pomeranz in making the announcement.

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## Therese Hegarty Appointed CEO Seven Studios

**SEVEN WEST MEDIA CEO TIM WORNER** has announced three senior appointments at the company's market-leading production division, Seven Studios:

- Therese Hegarty, currently Director, Content Distribution and Rights, has been appointed Chief Executive.
- Andrew Backwell, who has been consulting at Seven since late 2018, has been appointed Director of Production.
- Richard Henson, current Head of Content Sales, has been promoted to Director of Content Sales.

As one of Australia's largest producer of long form premium content, Seven Studios developed more than 1000 hours of television in 2018 across all genres, with 14 new original titles commissioned in the year and more than 20 hit series returning or in production across the group's production division. Seven recently announced the launch of Seven Studios UK, strengthening its presence in the UK and complementing its investment in London-based scripted specialists, Slim Film + Television. This international expansion builds on Seven's production hubs in Los Angeles, Auckland, Sydney and Melbourne.

"I'm delighted to announce Therese as Seven Studios' Chief Executive," said Seven West Media CEO Tim Worner. "That we are on track to deliver a seventh consecutive year of EBIT growth is down to Therese's outstanding leadership.

"She has led the evolution of the company into a truly global player, expanding our international production footprint to London, Los Angeles and Auckland, and ensuring our local hubs in Sydney and Melbourne go from strength to strength.

"Therese is putting together a world-class team, and the promotions of Andrew and Richard, together with the recent announcements of Damon Pattison as leader of Seven Studios UK, and Simon Shalgosky as our Head of Global Development, put us in the best position to profit from the unrelenting global demand for premium long-form entertainment."

Ms Hegarty began her career at George Patterson Advertising before moving into television production early in her career. Prior to joining Seven in 2012 she was Vice President Production for Beyond International, where she managed operational and business affairs across the company's US and Australian production business. She joined the Seven Network in 2012 and most recently held the title of Director, Content Distribution and Rights.

Mr Backwell has over 30 years' experience in media across the major Australian television networks, centred on development, programming and production. Prior to joining Seven in October 2018, he consulted at Sony/Playmaker and MediaWorks, and spent 13 years at the Nine Network most notably as Managing Director, Programming and Production, responsible for the entire content budget including production, acquisitions, news, and sport.

Mr Henson joined Seven Studios in August 2015, to manage the sales and distribution arrangements of Seven's significant and rapidly growing catalogue of content rights. Prior to joining Seven he was APAC regional director, program sales and consumer products for Discovery Networks International, and held various sales, strategy and communications roles with Nickelodeon, MCN, OMD and Universal McCann.

Visit [www.sevenwestmedia.com.au](http://www.sevenwestmedia.com.au)



## Radoczy Named Global GM for Deluxe MediaCloud

**DAVID RADOCZY** has been appointed Global General Manager, Deluxe MediaCloud, following two years as General Manager of the company's Australian operations. During that time, Radoczy oversaw completion of SBS Australia's migration of its playout functions to the Deluxe MediaCloud platform.

Prior to Deluxe MediaCloud, Radoczy held senior positions with Foxtel, MediaHub Australia and Star TV.

As Global General Manager, he now oversees and manages all of Deluxe's MediaCloud interests worldwide, including all operations and various development teams in Europe.

"This is a great indicator of the Australian business' success in playout and broadcast-specific services," he said.

Visit [www.bydeluxe.com](http://www.bydeluxe.com)

## Murphy Re-Joins FUJIFILM in BDM Role

**SIMON MURPHY** has re-joined FUJIFILM Australia in the new role of National Business Development Manager.

Murphy's second stint with the company – his first was from 2006 to 2017 – now sees him focus squarely on new products FUJIFILM has launched, including the Z5000 laser projector with folded, two-axial rotatable lens. Murphy will also be responsible for FUJIFILM's range of CCTV and Machine Vision lenses in both Australia and New Zealand which now includes the new SX800 long range surveillance lens and camera package.

FUJIFILM Australia GM recording media and optical devices Marc Van Agten said, "It's not just everyone at Fujifilm Australia who are delighted to have Simon return to the company, we have already had many clients call and congratulate him and us on this new role. This is testament to Simon's professionalism and the fact that he's so well liked and respected in the industry. Simon's AV experience and dedication to solution selling will be of great benefit to our new and existing customers."

As well as Fujifilm Australia Murphy has also had roles at Hagemeyer, GEC Australia, EMTEC Recording Media Products and SONY Australia.

Visit [www.fujifilm.com.au/products/optical\\_devices](http://www.fujifilm.com.au/products/optical_devices)



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\*Image is of ELEAGUE CS GO at Turner's ELEAGUE Arena.  
Workflow depicted in advertising is not a direct representation of ELEAGUE workflow.

## Unified Gaming Production

### End-to-End Solution

Live eSports productions come in different shapes and sizes. Online battles, small venue, and full arenas; Ross eSports solutions fit all environments. The workflow provided by Ross, organizes key components inside an eSports production for simplified operation, including: Shout casters, player pods, observer rooms, player streams, broadcast stream, and front-of-house fan experience all sharing a central system core.

Excite fans with game characters and environments brought to life through augmented reality and virtual sets. Using the Unreal Engine in a live broadcast allows characters to come to life in the highest quality possible in a full tracking environment.

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Ross understands the importance of your event and brand. For over 40 years Ross has provided rock-solid technology for critical productions.

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[ross.video/esports](http://ross.video/esports)

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## Bob Nguyen Wins Australian Cinematographer of the Year

At this year's Fujinon Fujifilm Australian Cinematographers Society (ACS) National Awards held at Melbourne's grand 1920s Plaza Ballroom, it was Bob Nguyen who won the prestigious Australian Cinematographer of the Year Milli Award.

**NGUYEN ALSO WON A GOLD TRIPOD** for his work on the Vietnamese film Song Lang. Directed by Leon Le, Song Lang is set in Saigon in the 1980s. Linh Phung is a star of a traveling Cai-luong (traditional folk opera) troupe deep in debt to a local loan shark. Dung "thunderbolt" is the enforcer come to collect. After an unlikely bond forms between the two, Linh Phung learns how a lived life is necessary for art and Dung follows art back to a life worth living.

Nguyen, who was on location when he learned of his wins said, "I'm super delighted to have received these awards from the ACS."

Nguyen holds a Bachelor of Film and Television, an MFA in Cinematography, and has been through the Kodak ACS Master Class under Ellery Ryan ACS, Alex McPhee ACS, and Brendan Lavelle ACS.

Based in Los Angeles, USA, and Melbourne, Australia, he has worked on over 50 productions using a variety of formats, including:

- 35mm: Aaton Penelope, Aaton 35, Panavision G2, Panavision XL2, Arri 353, Arri, 435, Arri 535, Arricam LT, Arri BLs, Moviemax, Kinor 35H
- 16mm: Aaton XTR, Aaton Aminima, Arri SR2, Arri SR3, Arri 413
- RED: ONE MX, SCARLET, EPIC, DRAGON
- ARRI: Arri Alexa, Arri 21D
- Canon C300, Blackmagic, Sony F65, Sony F55, Phantom Gold, Weisscam.

ACS National President Ron Johanson OAM ACS said, "On behalf of the ACS I would like to congratulate Bob on winning the Milli and also all the other award winners for their truly excellent work and commitment to the craft of



cinematography. They are an inspiration to us all. I would also like to thank Fujifilm Fujinon and all of our sponsors without whom these awards simply wouldn't be possible."

The ACS National Awards weekend also included several other events taking place alongside the awards themselves including the now-annual 'Meet the Nominees' get-together, a screening of Ladies in Black and an entertaining Q&A with Peter James ACS ASC.

Visit [www.cinematographer.org.au](http://www.cinematographer.org.au)

The full list of ACS Award winners appears on page 15.

## NAB2019 in the Frame

The race for higher resolutions and smaller form factors continued at the year's NAB show in Las Vegas.

**ARRI UNVEILED ITS NEW ALEXA Mini LF** camera. Combining the compact size and low weight of the ALEXA Mini with the large-format ALEXA LF sensor, ALEXA Mini LF features three internal motorised FSND filters, 12V power input, extra power outputs, a new Codex Compact Drive, and a new MVF-2 high-contrast HD viewfinder.

ARRI's large-format camera system is based around a 4.5K version of the ALEXA sensor, which is twice the size and offers twice the resolution of ALEXA cameras in 35 format.

ALEXA Mini LF is compatible with almost all ALEXA Mini accessories, but also features extra connectors, including regulated 12 V and 24 V accessory power; a new six-pin audio connector; built-in microphones; and improved Wi-Fi. Six user buttons now adorn the camera's left side, and the camera and viewfinder each have their own lock button, while user access to the recording media, and VF and TC connectors, has been made easier.

ALEXA Mini LF allows internal recording of MXF/ARRIRAW or MXF/Apple ProRes in a variety of formats and aspect ratios, and features the new Compact Drive recording media from Codex, an ARRI technology partner. Small and lightweight, but solidly built, the 1 TB drive offers a reliable, affordable recording solution. With it comes a USB-C Compact Drive Reader that can be used without

any extra software or licenses on Mac or Windows computers. In addition, a Compact Drive Adapter can be used in any dock that accepts SXR Capture Drives, potentially more than doubling download speeds. Codex High Density Encoding (HDE) uses sophisticated, loss-less encoding to reduce ARRIRAW file sizes by around 40 percent during downloading or later in the workflow.

At the heart of ARRI's new MVF-2 viewfinder for the ALEXA Mini LF are the same high-contrast HD OLED display, colour science, and ARRICAM eyepiece as in ALEXA LF's EVF-2 viewfinder, allowing optimal judgement of focus, dynamic range, and colour on set. In addition, the MVF-2 features a large, four-inch flip-out monitor that can display the image or the camera control menu, providing maximum flexibility for different camera configurations. The MVF-2 can be used on either side of the camera and connects via a new, flexible, and reliable CoaXPress VF cable that has a reach of up to 10m for remote camera operations. It features a refined user interface, a built-in eyepiece lens heater for de-fogging, and a built-in headphones connector.

ALEXA Mini LF cameras are scheduled to start shipping from mid-2019.

Visit [www.arri.com](http://www.arri.com)

**GRASS VALLEY UNVEILED** Grass Valley Creative Grading (GVCG). Comprised of a new control panel and a companion touchscreen application, GVCG bundles multiple technical operations into intuitive packages. Camera shaders can now

easily and quickly manage adjustments, such as transitions from indoor to outdoor lighting. Shaders can manipulate images thanks to the ultra-fast connection between panel and control and the dynamic adaptation to any format (HDR, WCG, 4K UHD, etc.) in real-time. Using GVCG, camera shaders can even use a WiFi-enabled tablet in the front of house to establish visual matching between physical and digital set elements.

With GVCG, shaders can quickly take multiple snapshots of how setting changes impact an image, compare them and select the preferred result.

Visit [www.grassvalley.com](http://www.grassvalley.com)

### SONY'S PXW-FS7 AND PXW-FS7 II XDCAM

camcorders have been further optimised for news gathering thanks to a new ENG-style build-up kit and a new B4 lens to E mount adapter. The build-up kit, CBK-FS7BK, enables extended shoulder mount usage. Combined with the new lens mount adapter, LA-EB1, both E mount and B4 lens assets can be used on either the FS7 or FS7 II, allowing users to capture images with deep and shallow depth of field (DoF) - all with a single camera.

The CBK-FS7BK build-up kit includes: an extension unit with a wireless audio receiver slot and built-in network capability, providing advanced network operation for broadcast usage, a viewfinder and a cheese plate with enhanced robustness, and an adjustable shoulder plate designed to achieve optimal weight balance. Streaming and file transfers are possible via wireless LAN or 4G/LTE connection.

continues p14 >>



# SONY

## Show time

### 4K, Global Shutter, HFR and HDR

The HDC-5500 system camera brings new levels of image quality with Sony's advanced 2/3-inch 4K CMOS sensor. Broaden your creative possibilities and achieve exactly the look you want in any shooting situation. Low-key Saturation ensures rich, vibrant colours in low-light areas. Enjoy premium 4K/HD/HDR picture quality – and anticipate tomorrow's production needs while maintaining full compatibility with today's workflows and system hardware.

- Three 2/3-inch 4K CMOS sensor offers high sensitivity of F10 with global shutter
- Optional license enables high frame-rate (HFR) HD image capture at 8x, 6x, 4x, 3x, and 2x in 4K
- Viewfinder Detail function adds dedicated image-enhancing edge signals directly to the viewfinder, helping the operator to focus quickly and precisely in any shooting situation
- Network TRUNK (via LAN port) allows high-speed data transmission between the camera and CCU at up to 1 Gbps



### HDC-5500

Three 2/3-inch 4K CMOS sensor  
portable system camera

For more information,  
please visit [www.pro.sony](http://www.pro.sony)

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&gt;&gt; from p12

**ARRI's new ALEXA Mini LF camera.**

QoS performance streaming is provided through the camcorder's Dual Link connection, allowing multiplexing of two cellular networks.

With the new LA-EB1 mount adapter, B4 lens can be attached to both the FS7 and FS7 II camcorders. The inclusion of B4 lens allows users to shoot deep DoF with the high zoom ratio necessary for traditional news production.

The CBK-FS7BK or FS7 extension unit XDCA-FS7, compatible with the B4 mount's communication interface, provides power through its DC supply and allows users to record directly with the lens REC button. Further, information such as iris and focus is displayed on the viewfinder of the camera and recorded as metadata, which streamlines post-production efforts. The adapter also works as a hub for the power zoom of the lens, enabling one-hand operation via the servo zoom.

Other highlights of the CBK-FS7BK build-up kit and LA-EB1 mount adapter include:

- Various interface support including genlock/timcode for multi-camera operation and RAW output.
- Compatible with Sony BP-GL and BP-FL series batteries.
- Newly designed shoulder plate with an extended slide mechanism, allowing users to find the optimum weight balance with their choice of lens.
- ENG-style LCD viewfinder included.
- Exchange lenses on-site with no tools required.
- Image circle is expanded to 13.5mm by magnifying the optical system. F-stop can be as small as 0.6, which can capture bright images.
- ALAC (Auto Lens Aberration Compensation) decreases chromatic aberration caused by the lens.

The ENG-style build-up kit and mount adapter for FS7 and FS7 II will be available in December 2019.

Visit [www.sony.com.au](http://www.sony.com.au) and [www.sony.co.nz](http://www.sony.co.nz)

## LENSES

**FUJIFILM SHOWCASED** the 8K lens series and the UA Series of broadcast lenses, which support 4K cameras equipped with a 2/3-inch sensor. The FUJINON UA46x9.5 portable 4K zoom lens for broadcast application is equipped with a 46x zoom, the world's highest magnification, broadcast portable lens for 4K video production, and the FUJINON UA107x8.4 zoom lens, which features a 107x zoom, and is optimal for shooting sports and concerts.

FUJIFILM also premiered the FUJINON UA125x8 4K-compatible box-type broadcast zoom lens that is under development with the world's highest zoom ratio of 125x2. The FUJINON UA125x8 covers a wide range of focal lengths from 8mm in wide angle to 1000mm in telephoto (2000mm with the built-in Extender). It is a multi-purpose high-power zoom lens that can be used in diverse situations.

In the UA Series -inch 4K portable lenses for

**Fujifilm's Premista 28-100mm T2.9 zoom lens for high-performance cinema cameras.**

broadcast, presently under development, FUJIFILM showcased two new models: the FUJINON UA18x7.6 and the FUJINON UA23x7.6. They are light and compact and have high mobility required for shoulder-type lenses and excellent optical performance needed for 4K.

FUJIFILM also featured the Premista 28- 100mm T2.9, the standard zoom lens of the new Premista Series the company announced in April. The Premista 28-100mm T2.9 is a zoom lens for high-performance cinema cameras and supports a large-format sensor. It covers focal lengths of 28 to 100mm. By combining a large-aperture aspherical lens and the newly developed focus/zoom system, the Premista 28-100mm T2.9 has achieved high optical performance from the centre to the edges of the screen, thereby fully unleashing the capacity of the sensor. In addition, a mock-up of the Premista 80- 250mm T2.9-3.5, which covers focal lengths of 80 to 250mm, was also on display.

Visit <https://www.fujifilm.com.au>

**ERNST LEITZ WETZLAR GMBH** showcased its latest development, LEITZ PRIMES and LEITZ ZOOMS, for the first time officially at this year's NAB. Best known for its prime lenses, SUMMILUX-C, SUMMICRON-C, M 0.8, and THALIA, the company is now expanding with a new family of next-generation optics and is entering new ground with its first set of the premium LEITZ ZOOMS.

The new lenses are available with PL- and LPL-Mount options including metadata interface Cooke /i and ARRI LDS-2.

To improve close focus abilities of LEITZ PRIMES and ZOOMS, new achromatic diopters MACROLUX 114 have also been added to the product line up. Like MACROLUX 95, the MACROLUX 114 will be available with strengths +0.5, +1 and +2. They will fit lenses with a 114 mm front diameter and are stackable to enhance the effect without adding any chromatic aberration to the lens. Additionally, step down rings to either 110mm or 95mm have been designed to make the diopters usable on these front diameters.

Visit [www.leitz-cine.com](http://www.leitz-cine.com)

## CAMERA SUPPORT

**EGRIPMENT SUPPORT SYSTEMS** introduced a new human tracker for its digital line of Remote Systems. The Egripment Digital Line of Remote Heads just added a new feature making it possible to track moving subjects, such as a talent or sports player and send the position data to the Remote System allowing it to follow it automatically. The real-time data provided by Trackmen ensures that the camera can follow its subjects accurately. Egripment's Camera Based Tracking System constantly tracks the subject without necessity of calibrating the camera in the real world.

Visit <https://egripment.com>

**Sony's PXW-FS7 series XDCAM camcorders, optimised for news.**

**TELEMETRICS SHOWED** new enhancements to the OmniGlideRoving Platform - including an advanced positioning system, the S5 series of servo-controlled pan/tilt heads, the entry-level RCCP-M Remote Camera Control Panel, the Televator series of remote-controlled elevating camera pedestals, and the TG4 TeleGlide Camera Track System.

Whether leveraging special machine-learning algorithms and advanced facial recognition technology, or robust servo-mechanical motors, all of Telemetrics' products are designed to support myriad workflows by providing ultra-smooth motion, quiet operation, advanced automation features and exceptionally high mechanical precision that is well suited for space-limited automated production studios and virtual set systems.

Visit [www.telemetricinc.com](http://www.telemetricinc.com)

**MILLER SPOTLIGHTED** the 1620 75 Sprinter II 2 Stage Carbon Fibre Tripod which brings the stability, torsional strength and reliability of Miller's well-proven 100mm ball levelling 100 Sprinter II tripod into a new 75mm version. The 75 Sprinter employs Miller's patented design, which enables the leg stages to be adjusted independently or together via two adjacent leg locks.

The 75 Sprinter II 2 Stage Carbon Fibre Tripod is best suited to be used in conjunction with Miller's CompassX and range of DS Fluid Heads in ENG and EFP applications, and has a payload capacity of 30kg. Competitively priced, it has a height range of 440-1530mm, a transport length of 700mm and weighs in at 3.2kg. With four spreaders to choose from, the 75 Sprinter is capable of meeting various project needs.

The company also showcased the Heavy Duty Cine (HDC) range of single stage tripods have been designed specifically for cinema shoots and are available in three sizes - tall, standard and short with various mounting platforms, including Mitchell base, 150mm or 100mm, and can be configured with a ground or mid-level spreader. The tripods in this line are designed with alloy construction and have a black coating to minimise reflections off the legs during a shoot.

Miller has also developed new camera plates, which enable additional sliding ranges to suit specific rigs, providing more flexibility for its Air, DS and Compass X Fluid Heads. Available in two versions, 120mm sliding range for larger-format broadcast and production cameras, and a 30mm version for DSLRs. The new 1207 camera plate provides an extended sliding range of 120mm, compared to the standard 1204/5 camera plates range of 60mm. The increased flexibility allows greater versatility in the balancing of various camera rigs. In order to cover various shooting needs, Miller has developed a short camera plate, 1209, that features a sliding range of 30mm, specifically designed to fit smaller cameras most suitable for DSLR's when used in 'on tripod video mode' and handheld photography during the same shoot.

Visit [www.millertripods.com](http://www.millertripods.com)





## 2019 ACS National Awards for Cinematography

### WINNERS

#### CINEKIDS

- Gold Award – Bella Merlino (NSW) – This is Me

#### STUDENT CINEMATOGRAPHY

- Gold Award – Jack Davis (SA) – Languagez

#### EXPERIMENTAL AND SPECIALISED

- Gold Tripod – Benjamin Powell (NSW) – Falling in Reverse
- Award of Distinction – Benjamin Cunningham (Vic) – The Story Of Earth – IMAX

#### JOHN BOWRING ACS TV STATION BREAKS AND PROMOS

- Gold Tripod – Richard Bell (Qld) – Celebrity Haunted Mansion
- Award of Distinction – Brendan Williams ACS (Qld) – Broncos – Welcome to Country

#### MUSIC VIDEOS

- Gold Tripod – Allan Hardy (Qld) – Parkway Drive – The Void
- Award of Distinction – Max Walter (Vic) – Guy Pearce – What Makes You Think

#### SYD WOOD ACS

##### LOCAL/NATIONAL NEWS

- Gold Tripod – Kevin Hudson (NSW) – Ember Storm – Menai Night Fire Sequence

##### NEIL DAVIS INTERNATIONAL NEWS

- Gold Tripod – Matthew Allard ACS (NSW) – Bringing the Past to the Present
- Award of Distinction – Timothy Stevens (Vic) – ANZAC Caves

##### CURRENT AFFAIRS

- Gold Tripod – Aaron Hollett ACS (Vic) – City of Ghosts
- Award of Distinction – Benjamin Foley (Qld) – Yemen's Bloody War

##### ENTERTAINMENT AND TV MAGAZINE

- Gold Tripod – Liam Brennan (Qld) – Rough Hands – ep 5, Karim the Bladesmith
- Award of Distinction – Toby Ralph (NSW) – Bodyhack 2.0 – Kazakhs of Mongolia

##### CORPORATE AND EDUCATIONAL

- Gold Tripod – Jordan Maddocks (NSW) – Leclerc Briant – Vibrations
- Award of Distinction – Ross Metcalf (WA) – Sinta – Life of an Athlete

##### DOCUMENTARIES

- Award of Distinction – Thomas David (Vic) – A Stargazer's Guide to the Cosmos

##### RON TAYLOR AM ACS

##### WILDLIFE AND NATURE

- Gold Tripod – Abraham Joffe ACS (NSW) – Tales by Light – Shawn Heinrichs
- Award of Distinction – Jonathan Shaw ACS (NSW) – Turtle Odyssey

#### COMMERCIALS LOCAL/REGIONAL

- Gold Tripod – Ross Metcalf (WA) – Kimberly Womens AFL

- Award of Distinction – Adam Howden ACS (Vic) – The Darkest Light

#### COMMERCIALS NATIONAL/INTERNATIONAL

- Gold Tripod – Shelley Farthing-Dawe (Vic) – Jacobs Creek
- Award of Distinction – Alex Dufficy (NSW) – Harley Davidson – The Frozen Few

#### DRAMATISED DOCUMENTARIES

- Award of Distinction – Dave Cameron ACS NZCS (NSW) – Roman Empire – Julius Caesar: Master of Rome

#### SHORT FILMS

- Gold Tripod – Jeremy Rouse ACS (Vic) – Armour
- Award of Distinction – Torstein Dyrting ACS (WA) – Blight

#### SERIAL TV AND COMEDY SERIES

- Gold Tripod – Judd Overton (SA) – No Activity (US) – The Raid
- Award of Distinction – Simon Riera NZCS (Tas) – Rosehaven – series 2, episode 4

#### DRAMA SERIES AND TELEFEATURES

- Gold Tripod – Denson Baker ACS NZCS (WA) – Victoria – series 2, ep 9, Comfort and Joy
- Award of Distinction – Mark Wareham ACS (Qld) – Mystery Road – episode 1, Gone

#### FEATURES – CINEMA

- Gold Tripod – Bob Nguyen (Vic) – Song Lang
- Award of Distinction – Ahmad Al Morsy (NSW) – The Originals (Alaslyeen)

#### 2019 MILLI AWARD

- Bob Nguyen (Vic) – Song Lang

#### HALL OF FAME

- Nino Martinetti ACS (Qld)
- Anna Howard ACS (NSW)
- Damien Parer

#### LIFE MEMBERSHIP

- David Gribble ACS (NSW)

#### DREW LLEWELYN ACS

##### CAMERIMAGE SCHOLARSHIP

- Simon Woods (Qld)

#### JOHN LEAKE OAM ACS EMERGING

##### CINEMATOGRAPHER AWARD

- Claire Bishop (SA)

#### BOB MILLER – ACS TECHNICAL AND INNOVATION ACHIEVEMENT AWARD

- Mark Ruff (Vic)

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## Sky Racing/Tabcorp - In the Box Seat for IP Video

In racing parlance, the 'box seat' is where a horse is running just behind the leaders and one horse out from the fence. It's a position that allows the horse to conserve energy before having a big crack at the finish.

### WHEN IT COMES TO REMOTE PRODUCTION

and video over-IP, it's where Sky Racing/Tabcorp finds itself, following the lead of other production services providers and broadcasters, but poised to be a leader in the field.

For Dennis Dovale, Senior Manager Technology (Media Division) at Tabcorp, it's a position that allows the niche sportscaster to match the right standards and technologies with the right applications.

"We're looking at different technologies, different requirements," says Dovale. "So, in-house, definitely [SMPTE] 2110. Remote, we're even considering at the moment NDI, looking at that as a transmission protocol or a remote protocol for us because we do horseracing and I don't believe we want to be an NEP or a Fox Sports with regards to uncompressed, so for us compressed format works pretty well.

"2110 is a no-brainer for us in the sense of it's like when HD came in, you wouldn't want to buy an SD camera because it would be a waste of money. What makes IP for me really sexy is the fact that the installation times and the way we install things is completely different."

*C+T: What is the Sky Racing workflow like currently?*

"We currently have three rack rooms, or we call them 'data centres', in the old traditional way and that's organically just grown that way. We're at a point where we can't find a place to jam equipment into, we have to put stuff between other things. We're actually spending, at the moment, more time moving equipment from one rack to another so we can implement new technology, it's really not ideal.

"The automation that we have, our MAM is one of the most amazingly configured MAMs in the country, if not the world. We automate 421 races per day, no hands onboard. We do proxy, we send them to the web, anything, it's all done. It's an amazing organisation."



**Dennis Dovale, Senior Manager Technology (Media Division), Tabcorp.**

### And what's the MAM based on?

"It's at currently Viz One, or Ardome is the old system, we're busy migrating right now to Viz One so we've got good technology, we've got a lot of really good people, clever people. We also have all this legacy infrastructure, so IP for us is just a winner. We see that the technology's going to give us that ability to be far more flexible than we are today. Even though we're pretty flexible, it's going to give us the ability to scale really quickly.

"We've put up six new channels in the last two years across in our venues. All the EPL is done by us into venues, we're looking at, I think, 34 digital streams now, which we provide to partners across the country. Crown Bet, Racing.com or Crown Bet, Bet Easy now, we supply all this content to them. Racing NSW, Harness Racing Victoria, we generate all their content for them in our building and it's all built in automation so we've taken a lot of old equipment and we've made it really as clever as we possibly can. For us, this is just an amazing time, really something exciting about the ability for us to be able to integrate this into the new technologies."

### And does that include the cloud?

"I'm still not sold on the cloud thing. Well, I am, but in the sense of a private Cloud environment. I think the AWS Cloud is very sexy, but the egress cost in

that is just ridiculous. For me, we do archive storage into the cloud. So, we will have three petabyte of storage in Glacier and that's perfect because it's a one way in and it doesn't come out unless I'm in deep trouble, and if I'm in deep trouble I have insurance for that.

"That's a great fit on our web base because we're a wagering business, something like a Melbourne Cup Day we'll go from running three web servers to 23 web servers so the cloud is a fantastic leverage for us in that business where we can leverage that scale and the flexibility. But, across a lot of our other technology, we don't need that so we also leverage it in the wagering

*continues p18 >>*



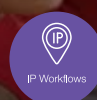
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business, so the wagering business runs a lot of virtual machines. We have data centres geographically located in Queensland and Victoria. We have dark fibre or high-speed networks, so we leverage all of that and at the backend of that. That give us the best of both worlds. It gives us the ability to have these big networks that are already part of the IT infrastructure and then, with television moving into that business, get the network team onto IGMP [Internet Group Management Protocol], because it was something that they didn't really know much about because it wasn't what they did but since we've got that up and running, we've leveraged across their whole organisation."

#### *What's the current workflow for delivering content from the field?*

"Sky Racing is one of the largest consumers of DVN in Australia, 172 DVN endpoints, so we install all those DVNs in the racetracks but, in the actual venue, the OB provider or the provider of that technology, is contracted by the venue itself. For us, the important part is we've obviously put in the infrastructure. So, onsite, we converted to HD three years ago now. Onsite, we have that infrastructure where the partner is obliged to deliver us embedded SDI HD content. That traverses the DVN network via George Street (Sydney) into Frenchs Forest, where we have 25 connectors, so we basically have a routing structure every day where we select where the racing is coming from by schedule, we route that through the intercaps, through all the regions, into the multimedia centre in George Street and then from there we have 25 end points in Frenchs Forest where we route them in.

"In Frenchs Forest, we then convert those into what we call "frame stores" or "remotes" so, again, we have this infrastructure where every control room has replication of what's coming in, so not only are they DVNs but they also rotate through the day. We have 25 simultaneous incoming live feeds and as the day progresses - early in the morning it's out of the US and then we go through to Australia and main market and then we'll go through to Europe at night time and then back through to the US - so that with those feeds are rotating all day long through the business.

"What makes Sky pretty interesting is Queensland is our own region and we actually run the OB feed ourselves. We have three trucks there and we aggregate them from the camera through the DVN into Frenchs Forest. We create up to 69 different distribution feeds, so a lot of them are digital, a lot of them are via satellite, international distribution, all the way in our venue network, all the way to 5000 venues, all the way to the TV. We're basically not just a production [business], but we're also a transmission business.

"The whole idea of the remote broadcast for us is we can aggregate those feeds coming in individually from the cameras, we can mix the audio separately, we can bring it into our control rooms where we would obviously have then a control room that mixes multiple program feeds coming in from the day, so where we cut to a single feed, we actually cut to a group of cameras where we can switch that. We think that's going to make a big difference in our consistency of what we do and also for our distribution.

"The very first thing we did for IP was we looked at how we could control all this so we integrated with a VSM, went to Lawo and looked at VSM because we needed to be able to switch through the legacy [technology]. We have Grass Valley routers, Evertz routers, Harris routers and an NVision router. So, VSM for us is the very first thing that I integrated when we got there was to have a single platform that everyone could operate and learn how to operate it and that would then switch all the platforms below it and that was really in preparation for IP.

"Then we started looking at automation behind that, so how could we then make life easy? The current controlled design and implementation, which we're rolling out right now, is the vision switcher controls the audio mixes under automation so as you select a source, it does a crossfade, it does a mix. We have special little salvos written that says, "Racetrack X is going to have somebody who's going to host it from that racetrack", so then we've got to have buttons on the audio mixer that effectively gives them priority, so the audio then automates underneath it but it has priority to an operator. That's all we're really busy on at the moment is automation. How can we convert a control room for a six, seven-man control room down to a two-man control room and, eventually, down to a one-man control room at late night?"

#### *Will IP find its way into your trucks?*

"I think we're in negotiation at the moment with Queensland, which is where we have the truck fleet, Queensland Racing. We're looking at a whole bunch of new technologies for them, specifically they are very interested to know what we're going to do technically and I've been quite blatant. If the contract

is renewed next year, we will be going remote broadcasting, we will have much smaller trucks. We'll still need the people because we still need people to be onsite and do what they do. We'll still need a cameraman and we'll still need all of that, but we'll bring the production back and that, for us, I think we can leverage that quite comfortably.

"The challenging thing for us is that we actually produce a content for on air at Sky and we also produce content at the venue. Not only do we have to bring the content back as a remote broadcast, we have to generate a content feed that is also returned back to the racetrack, that is reticulated around their network, so we're looking at a whole bunch of options right now for how we can better serve Queensland Racing specifically there, but New South Wales have something similar where they have their own truck fleet, but we want to work with them to try and automate as much as we can.

"The remote broadcasting for me is a no-brainer. I don't believe we will build a truck as an OB truck again. It will be definitely something small and sexy with a couple of components or compartments down the side where we store cameras and things, plug in the fibre in the back of the truck, go upstairs, 1, 2, 1, 2, talk to a cameraman and away we go."

#### *What's your take on where the standards are at the moment?*

"Audio for me is a big issue right now. We're a Dante house, but Dante and AES67 aren't really friends. We're also a radio network, so I run 200 transmitters and radio, we run two radio stations, and that's all running WheatNet. Now, WheatNet, Dante and AES67 are enemies. They don't like to work together in any way on the same networks at all, and this is a problem for me on the standards right now. Not that I'm saying that they all have to be the same, but it'll be great for interoperability between those standards. Because we're an integrated network of television and radio, we share a lot of it, so we're having to go back to MADI.

"On the Dante world, we're busy transitioning across to Ravenna, because Ravenna works across our VSM into the audio console which is through Lawo. However, our communication systems are all Dante, so we're having to on ramp and off ramp and that's the only part that I really don't believe that there's enough cooperation between the different vendors.

"But, on the video side, 2110 I think is fantastic."

#### *So, you're on a rough 12-month migration plan?*

"I think it's a lot longer than that, but one of the deliverables I have, and that for me is really exciting is for the very first time we're building a DR for Sky. We've never had a DR and it's been one of those things where everyone doesn't think they need insurance until they need insurance. And, because of the value of our product now, specifically into corporate bookmakers and to third parties, now for us we have some serious SLAs to deliver, so I've managed finally for the first time to get DR approved.

"We've basically made a guarantee to the organisation that within the next 12 months we will roll out DR and because it's brand new greenfield, it's all IP, therefore it's a fantastic opportunity for us to grow into the IP world with a complete greenfield, but it's a very small portion of what we do so we're effectively separating our building into two halves and one half will be completely IP, the other half will be legacy on ramp off ramp as we migrate it slowly but surely. It's going to take us a few years to get there, but I think it will give us a big chunk of what we're doing right now."

The whole idea of the remote broadcast for us is we can aggregate those feeds coming in individually from the cameras, we can mix the audio separately, we can bring it into our control rooms where we would obviously have then a control room that mixes multiple program feeds coming in from the day, so where we cut to a single feed, we actually cut to a group of cameras where we can switch that.





## Sky Racing Places Winning Bet on ARISTA for SMPTE 2110

TABCORP'S RACING BROADCASTER, SKY RACING has awarded the contract to supply its broadcast and control networks to Arista via Professional Audio & Television.

Arista, the trail blazer of broadcast network switch suppliers in Australia for SMPTE 2110 broadcast networks, has been tasked with the responsibility of hosting an entire broadcast and control network for Tabcorp's Sky Racing in its Sydney Frenchs Forest HQ and their new Disaster Recovery facility, as well as its new state of the art Brisbane facilities.

Long known for their extremely low latency, high bandwidth switch technology, Arista in close cooperation with Professional Audio & Television, remain unchallenged in the SMPTE 2110 broadcast environment in Australia. Having supplied some of the largest broadcasters and OB suppliers in the country, the local team of Arista and PAT engineers will assist Tabcorp's core technology teams with the rollout of this new technology platform over the coming 12 months.

For its Media Network in Frenchs Forest, Sky Racing chose a redundant switch cluster consisting of two 7508R high-density network switches with four 7500R-36Q line cards and two 7050SX2 switches including all necessary optics. The Media Network Disaster Recovery site consists of another redundant switch cluster of two 7504R high density network switches including two 7500R-Q36 Line cards, as well as two 7050X2-72Q network switches. For the control network, Sky Racing decided on two 7050SX2 and two 7520SX3 spine switches and twelve 7020TR leaf switches. All network switches will be monitored via Arista's CloudVision software. Service and Support for this ultra-low latency, fully redundant broadcast and control network will be supplied by Arista's level 3 24/7 hotline as well as Arista's and PAT's local engineering teams.

Tabcorp's Manager of Core Media Technology – Dennis Dovale outlined the decision to entrust Sky's media and control network to Arista via Professional Audio & Television.

"Our business depends on fully redundant, ultra-low latency networks.

We worked closely with the local Arista and PAT engineers to design and specify the new technology and ran knowledge days with both Arista & PAT on prior learnings and challenges to be aware of. It is imperative that we have the support, expertise and know-how of broadcast IP specialists," Dennis Dovale said. "Arista and PAT have previously been involved with cutting-edge solutions across our business and as a leader in this dynamically changing broadcast industry worldwide, the decision to go with Arista and PAT made perfect sense."

Arista's Vice President of Business Development, Ed Chapman said, "We are honoured to have been chosen as the preferred IP network provider for Tabcorp's new SMPTE2110 broadcast and control network." Managing Director of Professional Audio & Television – Patrick Salloch added, "I believe that Sky Racing's decision to go with Arista for their new broadcast and control networks, confirms Arista as an industry standard when it comes to broadcast IP SMPTE2110 networks in Australia. I am looking forward to working closely with Sky Racing and Arista on this cutting-edge project over the coming months.

The Sky Racing SMPTE2110 broadcast and control network will be rolled out over the next 12 months as the broadcaster migrates from a traditional copper facility to the world of IP.

Visit [www.proaudiotv.com.au](http://www.proaudiotv.com.au)



## CARBONITE Ultra

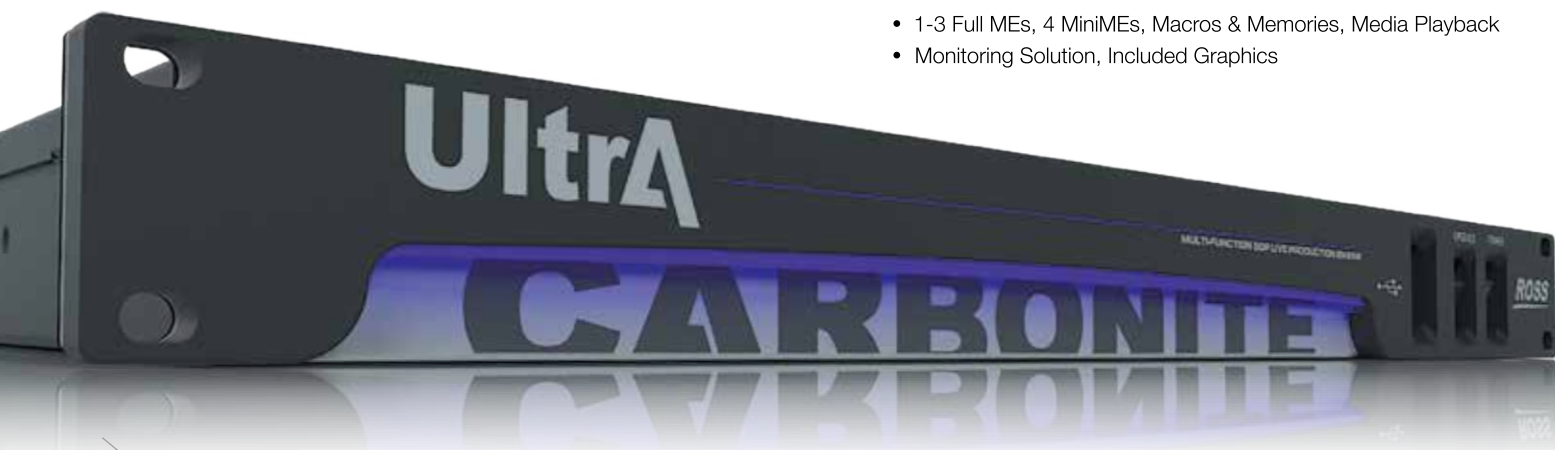
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## Enabling the next generation of women leaders in sports broadcasting

By Caroline Ramsay, Project Director, Major Events – NEP Australia

**HOW CAN WOMEN SEEKING CAREERS** In sports broadcasting break in? Once there, what tactics offer the best prospects for advancement? In a traditionally male dominated environment, what specific challenges do women aspiring to leadership roles face? And how does the industry benefit from a more diverse and gender-balanced workplace?

To discuss these issues, a high calibre group gathered at NEP Australia's Eveleigh (Sydney) studios on May 14th for the inaugural SVG (Sports Video Group) Women in Sports Broadcasting Networking Event. Based on the success of similar forums in the US and Europe, the session marked the launch of a series of local events aimed at advancing women in the sports broadcasting and sports business arena, and ultimately increasing the talent pipeline.

Over two fascinating hours, senior women from a wide cross-section of industry – spanning broadcast production, on-air talent, engineering, sales; sporting bodies; rights-holders; social media; and telecommunications – offered insight, advice and inspiration\*. The 65 attendees represented a similarly diverse array of organisations, ranging from broadcasters to equipment suppliers, sporting federations and telcos.

The good news is our industry has definitely moved on from the commonly held attitude 20 years ago that 'women don't like sport'. Women's sport is getting more attention and exposure in the media, and more support from broadcasters and sponsors, than ever before. Female sports presenters, reporters and commentators are also noticeably more visible and prominent.

Welcome as that is, the business of sport, including sports broadcasting, remains male dominated. While in the past this tended to be accepted as having 'always been that way', the days of normalising that scenario are behind us as we look to recruit more women, remove glass ceilings, promote more flexible, family-friendly work schedules and develop the talent pipeline. After all, women comprise 50 per cent of the population: it simply doesn't make sense to deprive businesses of that resource.

In this respect, the technical side of our industry has specific challenges. Until recently, young women haven't been encouraged towards sciences (STEM) career paths. Those who have done so, and pursued broadcast technical roles, remain likely to work with mostly male colleagues, and have a male boss. For women not lucky enough to be mentored, or without ready access to a female role model, it can be hard to see a meaningful career path. Our panellists shared stories of resilience, how they developed self confidence, overcame sexism and persevered to reach their current successes.

Tackling the shortage of women entering the technical side of our industry requires a long-term, concerted effort by schools, higher education, industry bodies and companies to motivate girls towards STEM subjects. This involves both explaining the wide variety of career opportunities available and also demonstrating that girls are just as capable as boys in these areas.

NEP Australia is a case in point. Acknowledging the gender imbalance, through a focus on female recruitment, in-house training, partnerships with TAFEs and universities, and the Gold Coast 2018 Commonwealth Games Host Broadcast

### SVGW Australia Inaugural Women in Sports Broadcasting Networking Event

#### Keynote interview:

Melissa Lawton,  
Live Content, Facebook

#### Panellists:

Danielle Bleazby,  
Head of Growth Products, AFL

Jane Bowers,  
Technical Director, NEP Australia

Charlotte Brigel,  
Vice President,  
Head of Sales & Operations, IMG Media

Keeley Devery,  
Head of Netball, Nine Network

Natalie Hazell,  
Broadcast Engineer, NEP Australia

Madeleine Holder,  
Freelance Director/DA

Renee Quirk,  
Head of Sport Business Affairs,  
Seven Network

Sam Squiers,  
Journalist/Presenter,  
National Rugby League

#### Moderators:

Stephanie Brantz,  
Presenter,  
Commentator & Reporter,  
ABC and ESPN

Anna Lockwood,  
Head of Global Sales,  
Telstra Broadcast Services

Caroline Ramsay,  
Project Director Major Events,  
NEP Australia

Training Program, the company has grown its female workforce from 17 to 21 per cent over the past two years. NEP will shortly roll out a small, targeted, mentoring program, and alongside initiatives such as the SVGW networking events, the ratio should continue to trend upwards.

In the keynote interview, Facebook's Melissa Lawton observed that it's not just a question of increasing the number of women in our industry: we also need to create inclusive work environments. Too often, women feel pressured to conform to stereotypes, when in reality everyone has their own style – particularly in leadership positions. It's important to be true to oneself and authentic.

Melissa also counselled women in the audience to future-proof themselves by paying close attention to evolving industry needs and consider further study and training. Going a step further, rather than stagnate and feel frustrated, she encouraged stepping out of your comfort zone and taking career risks. In particular, more women need to hold their hands up and be more positive and assertive in seeking leadership roles. It's also crucial that women support one another and champion our respective successes.

There was a genuine sense (particularly among those in digital broadcasting, working with new technologies, and social media) that the dial is turning – if still slower than we would like. On the other hand, it's increasingly normal for people to change jobs, and even careers, after a few years, which is eroding always-been-that-way complacency.

Sports broadcasting businesses are also recognising that incorporating women's skillsets and perspectives can result in better business outcomes. Intuitively that makes sense, and the pitfalls of 'group think' have been well documented for decades. Recent McKinsey research showed gender diversity on executive teams is strongly correlated with companies' profitability and value creation. Among companies studied, those with the most gender-balanced leadership were 21 per cent more likely to outperform their industry peers on EBIT margins, and 27 per cent more likely to outperform on longer-term value creation. Also encouraging is McKinsey's finding that Australian companies "lead the way when it comes to women's share of executive roles", with 21 per cent compared to 19 per cent in the US and 15 per cent in the UK.

A recurring theme throughout the session was the need to encourage and enable the next generation of females to build careers in this industry that we love, without any remaining barriers. Everyone has a role to play in making that happen.

Following the semi-formal part of the evening, participants were able to tour NEP's new multi-format, remote centralised production facility at the Andrews Hub, and the NRL Bunker. This showcase of cutting-edge technology sparked much excitement, learning and many intelligent questions. Everyone then made their way to some well-earned delicious food and a glass of wine. Ideas, concerns and business cards were exchanged in a relaxed atmosphere amid a real sense of collegiality, genuine support and opportunity for companies to diversify their workforces. Billed as the inaugural SVGW event, NEP is already planning the next session, to be held in Melbourne.

For more, contact Caroline Ramsay via [cramsay@nepgroup.com](mailto:cramsay@nepgroup.com)





## Techtel Delivers for ABC News

**LAUNCHED IN 1932**, the Australian Broadcasting Corporation (ABC) has become a much-loved part of the Australian society and its cultural fabric. From a single radio service, the ABC has developed into a multi-platform media operation and a public broadcaster of international renown, delivering Australian stories and conversations across the nation and beyond.

As innovation and evolution continue to streamline the TV production, ABC required to rebuild their 12 head news studios across Australia's capital cities into brand new production and broadcast facilities with the latest infrastructure and design. After a selective tendering process, ABC enlisted Techtel to design, build and integrate each of these 12 studios and their respective control rooms with the latest automation technology and a new studio control core which will provide a future-proof live production platform that will support both current and future broadcast environments.

### PROJECT

Drawing on previous experience in studio automation at multi-cultural broadcaster SBS (Special Broadcasting Service), Techtel developed a new system design in line with ABC's requirements. The solution involved a new studio automation control core as well as brand new Broadcast IT equipment, consisting of the following:

- Vizrt Studio Automation – a software and control core with a simple interface, proven interoperability and tight integration with ABC's AP ENPS news production system, also commissioned and integrated by Techtel as a part of a separate project. The template sharing license capability of the Vizrt platform will be able to copy a story from the ABC News production system and instantly share it with all other users on the network.
- Telemetrics Camera Robotic and Control System with a flexible architecture for studio automation and an integrated and intuitive robotics control surface. The system comprises Telemetrics PT-LP-S5 Robotic/Manual pan-tilt heads and EP7-600 Robotic Pedestals with smooth variable operating speed; all under the control of a Telemetrics remotely controlled Robotic Camera Control Panel (RCCP-1). RCCP-1 allows a single operator to control all of the cameras in the studio, providing users with access to deep menu controls of broadcast cameras without purchasing dedicated camera control units.
- Panasonic HD Video Cameras with Canon HD Lenses – Provide high quality images, while supporting remote control operation under the Telemetrics robotic camera systems – a key automation feature of this project.
- CueScript Teleprompter – a 17" prompter package with a 19-inch talent monitor, operated by the CueB Prompting Software Interface Device which connects via ethernet to any



desktop device, making it suitable for remote prompting. This IP-enabled prompting solution has the ability to add a countdown timer to the prompter screen, as was required by ABC.

- Yamaha Audio Mixer – the latest generation of Yamaha's all-in-one digital audio mixing, processing and routing system which employs Dante audio over IP – an uncompressed, multi-channel digital media networking technology, with near-zero latency and synchronisation.
- LYNX Technik Terminal Equipment supports large studio installations like the ABC encompassing multiple frames of modules spanning across many different locations all networked into the centralised APPolo control system.
- TV Logic Broadcast Monitors utilise a high definition TFT-LCD panel with 10-bit colour depth.
- Apantac Multiviewer – Tahoma T# - a multiviewer solution which supports serial tally over IP integration with the Grass Valley switcher using Kalypso protocol thus satisfying ABC's request for a multi-format input multiviewer.
- Grass Valley Vision Switchers – a Karrera K-Frame package which includes control panel video frame and licenses., complemented by a four-channel clipstore package based on the K2 Summit Server platform.

Techtel collaborated with the civil, mechanical, shop fitters and electrical contractors on all aspects of the structural design to ensure all facets of the studios and their control rooms work symbiotically as one whole TV broadcasting network.

As a part of the project SLA, Techtel ran extensive system and user tests prior to going on air for each studio, and have been on-site for go-live support throughout each switchover. Techtel provided specialist training on every system component, mainly for the operators of the robotics system, the prompting system and the studio automation software.

The project was rolled out in several consecutive phases: foundational design, detailed systems design, installation, commissioning, testing and switchover. Work on the project started in June, 2016 and the final studio has gone live on the 14th

April 2019, marking the successful completion of the project.

ABC now operates their 12 head studios out of new control rooms using the next generation studio automation system which maximised the utilisation of all aspects of their broadcast operations including smarter use of manpower; improved speed-to-air efficiency, higher utilisation of other integrated technical and studio resources. The nature of the control core and the way in which all project elements have been integrated with each other create a future-proof live production platform that will support both current and future production values for ABC for years to come.

ABC is also the first ever news broadcaster to benefit from CueScript's on screen timer within the prompter monitor, which enables operators to add in messages, clocks and timers without disrupting the prompting script, as well as the first to use the Apantac dynamic UMD integration with Grass Valley.

Furthermore, Studio 24, which broadcasts the 7.30 report out of Sydney has become ABC's first Live HD Studio, which shares the same common systems as the other 11 upgraded facilities allowing these other studios to transition to HD at any stage.

"Drawing on over 30 years expertise in broadcast systems integration, Techtel designed, built and integrated an entire broadcast network of studio and control room facilities for one of Australia's largest broadcasters," said Mal Chandler, Techtel CEO. "Despite a tight schedule, each phase of this multi-faceted project was delivered on time with zero disruption to live broadcasts. Techtel is proud to have been a part of this historic venture."

"Without a doubt, Techtel's contribution will leave a long-lasting impact on ABC's broadcast operations for years to come," commented Justin O'Byrne, Project Manager at ABC. "ABC now has a brand-new studio infrastructure which can control more equipment and is more powerful than ever."

Techtel will continue supporting ABC in their transition to new technology through ongoing on-site service and remote technical support over coming months.

Visit [www.techtel.com.au](http://www.techtel.com.au)



## Sorting the News at NAB

Chief Technology Officer for the Nine Network, David Bowers, was headline speaker at C+T's recent NAB De-Brief where he gave his rundown on NABShow2019.

**C+T:** *You guys were at NAB this year for primarily for news infrastructure?*

"We took one of our newsroom people and one of our studio and automation people for their first trip to NAB. Our focus was newsroom and automation, funnily enough, studio automation. I think they really benefited from the event."

**C+T:** *What were you looking for primarily in terms of solutions?*

"Look, we had most of our vendors already picked. We just wanted to make sure that they really could deliver what they had promised or what they have on their roadmaps in terms of 2110 and I must say that 2110 has really accelerated in being ratified, so there is a lot of comfort for us in that space."

**C+T:** *So, you think it's ready for prime time?*

"By the time we go to air, it has to be ready for prime time. I must say that a lot of vendors that ran the IP workshops, all our guys got up at 7.30 in the morning and attended all of them, so they were of a [high] calibre. But, in terms of newsroom systems, there's definitely a big push towards being able to publish to social and since we began our designs, someone bought a radio station and a newspaper, then asked us to jam all that in on the way, so that was a bit of fun."

**C+T:** *What's the overall operational model that you're striving for?*

"Make more money, pay less. No, the funny thing about this, IP, everyone thinks IP is this utopia that's going to answer all our questions and make these workflows just appear. I won't put [them] on the spot, but the Avid team have been working tirelessly for probably the last six months trying to get workflows that we already have to flow in an IP world."

**C+T:** *How are they going with that?*

"Look, they'll say they're there, I'll say they're not far from being there, but we will be there."

**C+T:** *This will be a national project in the end?*

"We're focusing on just building this platform and we

know we have to hand off to our other four stations. On the way, even through the design and build, once you get half way through it, some other technology, something is always coming out of the woodwork that you don't have time to stop and reset that clock. But we've been building, since I started back at Nine, well the guys have been building Adelaide, Perth, we paused and now we're ready to really jump in to what I call a true IP platform. I know there have been other incumbents in the country that have started to build platforms, but not live broadcast platforms where they've had to handle all the ancillary. There's a lot of other complexities behind doing live news with captions and other bits and pieces that we're still waiting for Dash40 to appear working in 2110."

**C+T:** *So, this is an ongoing project?*

"Yeah, we're painting the Harbour Bridge. Once we get to the southern end, we start again."

**Does that make you the Paul Hogan of broadcasting?**

"I hope not, though he was quite successful at stand-up comedy."

**C+T:** *Aside from your own shopping list, what else stood out at NAB?*

"The industry is definitely taking a shift. I see the prosumer people and the social people are coming up and overtaking, like it was always the top feeding down; it's now the bottom feeding up. Just the quality of some of the cameras now that are popping up from the prosumer, like 4K, those digital SLR cameras and the cost to market that they're getting them out there at, it's definitely a changing time."

**C+T:** *What's the strategy then for standing out from the crowd?*

"We've got to make sure that we're cross-platform compatible, where there's so much, just even the content that we currently have, getting that across the platforms and making sure everyone has immediate access is the secret. We believe that once we're in that IP space, that will happen."

**C+T:** *Was there anything else that stood out at NAB?*

"Look, just the way the halls were set up with IP



**Nine Network CTO David Bowers.**

Connect and just the podcasting studio, like what you can do with a podcasting studio these days, it would blow your mind. When you think, traditionally, we spent probably sub \$10 million to put together a studio and a platform, I think these days a group of guys could punch out a three-camera podcasting studio for under \$20,000. Some of the content that comes out of that is not too shabby."

**Audience Member:** *What, if anything, changed about your view of the cloud before and after or since NAB.*

"Sure, now that's a very good question. Look, we're very cautious of the cloud, like after coming back from that trade show, the cautious approach was that hybrid model."

"It's there, it's elastic, if you need it, you can start to use it and we have been dabbling with it. Broadcasters are so sceptical, they just need to see it working, use it, touch it, feel it and then they feel safe with it. So, it's there. I just think it's a bit like the eastern distributor, those buggers keep putting that road toll up to use it. So, the storage is real cost effective, it's just that for heavy production and 4K, I don't think it's there yet. But, definitely for shows you want to ramp up and ramp down, like that elastic sort of infrastructure, yeah. We've been using it for our regional news delivery now for almost 18 months and it hasn't let us down."

The next C+T De-Brief will take place after IBC2019.

## Adobe Rush for Android

**ADOBE HAS ANNOUNCED THAT** Premiere Rush, the company's all-in-one cross-device video editing app, is now available for select Android phones. Available for download through the Google Play Store and Samsung Galaxy Store, Android users can now capture, edit, and share online videos to their chosen social platforms.

Premiere Rush is now available on Samsung Galaxy S10/10+, S9/9+, Note9, Note8, S10e, Google Pixel 3/3XL, 2/2XL, and OnePlus 6T. Compatibility for more Android devices are also on the way.

Premiere Rush packs powerful capabilities from Adobe's professional tools like Premiere Pro and Audition into one simplified workflow that's been optimised for Android devices. It integrates intuitive editing, simplified colour correction, AI-powered audio clean-up, customisable Motion Graphics templates, and publishing all into one easy-to-use solution that works seamlessly across desktop and mobile.

Premiere Rush also automatically syncs all projects and edits to the cloud, so users can access the most up-to-date version whenever they need it, allowing them to work from anywhere, on any device. And, with a consistent

user experience across Android phones and desktop computers, they can start a project on one device and publish from another all without missing a beat.

In addition to the Android launch, new Motion Graphics templates are available for Premiere Rush, adding to the hundreds more in Adobe Stock that can be used to customise videos.

Explaining the reasoning as to why Rush was built on top of Android Pie (P), Jon Barrie, Strategic Development Manager, Creative Cloud for Video Adobe A/NZ, commented, "Premiere Rush for Android is built on an all-new GPU driver for Rush to operate at full potential. Expanding device support is a top priority and Adobe are working hard to add additional support over the coming months."

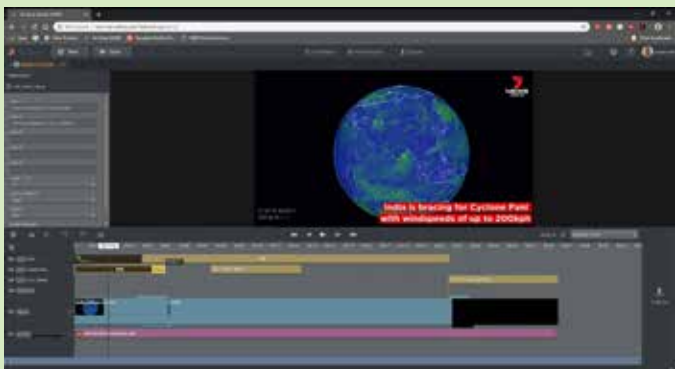
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## Seven News Installs Viz Story Across Australia



**VIZRT, THE PROVIDER OF** visual storytelling tools for media content creators, has installed Viz Story across the entirety of Seven News, the news arm of Seven West Media.

Viz Story is Vizrt's video creation and distribution tool that allows digital media companies to quickly create captivating and branded content and publish it simultaneously across multiple platforms.

Andrew Anderson, Head of Operations at Seven West Media said: "Viz Story was chosen to create content for the newly launched 7news.com.au website and so right now we use Viz Story to quickly publish branded video to the site. We will soon use more of the Viz Story capabilities to publish direct to multiple platforms such as YouTube, Twitter and Facebook."

All of Seven West Media hubs in Australia's major cities (Sydney, Melbourne, Adelaide, Perth, Canberra, Maroochydore and Brisbane) have dedicated Viz Story installations. These installations also include live ingest capture with the capability to edit content during the ingest with growing file and clip up capabilities, for fast turn-around of broadcast news segments.

The installation of Viz Story at Seven News was part of a larger digital campaign to publish more content online than terrestrial, with an internal network wide KPI to publish 250 videos a day. During a recent breaking news events in Christchurch, New Zealand they published 30 videos a day from Sydney alone.

Mat Cooley, Head of Viz Design Group at Seven West Media said: "We did a very comprehensive search for a system that can do what Viz Story does. As a company we have great experience with other products from Vizrt, but Viz Story made sense for a multitude of reasons including: using Viz Artist not just for regular studio output but for internet content; Viz Story gives digital video producers all the tools they need which makes creative process seamless; using templates made by our Viz Artist team gives us control over 7News.com.au branding."

Jonathan Watson, Regional Sales Manager, Vizrt Oceania said: "Seven is a leader in utilising Vizrt technologies to gain greater efficiencies and brand improvements. We learned a lot by being in close collaboration with the Seven digital teams, not just the broadcast side of Seven operations."

Seven News is part of Seven West Media, and has journalists using Viz Story across their seven different Australian locations. Seven West Media is the home to many of Australia's leading media businesses and the biggest content brands, and is expanding its presence in the further delivery of its video and publishing content beyond its digital broadcast channels and across an array of platforms.

Visit <https://7news.com.au> and [www.vizrt.com](http://www.vizrt.com)

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## Post-Production Reimagined at NAB2019

### NAB2019 SAW AVID UNVEIL ITS REIMAGINED

Avid Media Composer 2019 video editing software and Avid NEXIS | Cloudspaces SaaS cloud storage solution.

With Media Composer 2019, an editor can go from first cut to delivery without ever leaving the application. Features include:

- New User Experience - makers can work at the speed of creativity with a paneled interface that reduces clutter, reimagined bins to find media faster, and task-based workspaces showing only what the user wants and needs to see.
- Next Generation Avid Media Engine - puts more power at a user's fingertips with features, such as native OP1A, support for more video and audio streams, Live Timeline and background rendering, and a distributed processing add-on option to shorten turnaround times and speed up post production.
- New Finishing and Delivery Workflows - Now, users can create and deliver higher-quality content with editing, effects, colour, audio, and finishing tools without leaving Media Composer. Whether working in 8K, 16K, or HDR, Media Composer's new built-in 32-bit full float colour pipeline can handle it. Additionally, Avid has been working with OTT content providers to help establish future industry standards.
- Customisable Toolset - built for large production teams, the new Media Composer | Enterprise provides administrative control to customise the interface for any role in the organization, whether the user is a craft editor, assistant, logger or journalist. It also offers unparalleled security to lock down content, reducing the chances of unauthorized leaks of sensitive media.

A new member of the Media Composer family is Media Composer | Enterprise, designed for post-production, broadcast, media education and other larger production teams. Media Composer | Enterprise is a role-specific video editing and finishing solution. Large production teams now have the ability to customise the interface and tailor workspaces for different job roles, providing end users access only to the tools and functions they need. Media Composer | Enterprise also integrates with Editorial Management 2019 to deliver collaborative workflow innovation for post-production and enables creative teams to stay in sync.

Avid also announced Media Composer | Distributed Processing, an add-on option that shortens

turnaround times and accelerates post-production by sharing the media processing load. Tasks that previously took hours can now be done in minutes, strengthening post facilities' competitive edge while delivering high-quality programming. Media Composer | Distributed Processing also offloads complex processing tasks when working in today's emerging high resolution and HDR media-rich worlds.

MediaCentral | Editorial Management 2019 is an Asset Management platform for post-production that can be accessed by any role, from anywhere. Users can quickly find, edit and share media from any location, making it easier to manage media, prepare projects and keep everyone in sync. Available in May 2019, the new features in Editorial Management 2019 will enable users to prepare and edit simple sequences, assemble and create group clips to prep multicam shots for Media Composer editors, and use Avid | AI with a new integrated Phonetic Option. Additionally, it is integrated with Avid | FastServe video servers to edit while capturing 23.98fps and multi-camera footage, enabling live studio productions to work faster in real-time.

Avid MediaCentral is now integrated with Maestro Graphics, providing a complete graphics creation and delivery workflow for news, sports, post, and studio production teams. With full Maestro graphics capabilities integrated seamlessly into the MediaCentral ecosystem, anyone can add 2D or 3D graphics to any edit or rundown with the ability to search for and find graphics templates, add custom text, and then overlay on any content from any device. Avid has now integrated the full Maestro graphics line of products with MediaCentral allowing users to leverage video assets in graphics creation and graphics templates from anywhere on the network.

Avid's new NEXIS | Cloudspaces provides a simple way for post-production, broadcast and sports teams to safely and securely park projects and sync onsite Avid NEXIS workspaces to the cloud for easy offsite backup by bringing the power of the cloud to Avid NEXIS. Making backup easy by auto-provisioning cloud resources, NEXIS | Cloudspaces scales as your needs change. All existing and new Avid NEXIS systems will come with a limited time offer of two terabytes of cloud storage, enabling users to try out the service for free.

Visit [www.avid.com](http://www.avid.com)



Avid MediaCentral.

### BLACKMAGIC DESIGN ANNOUNCED DAVINCI

**RESOLVE 16**, a major update that adds a new cut page specifically designed for editors that need to work quickly and on tight deadlines. In addition, DaVinci Resolve 16 includes dozens of other new features for professional editors, colourists, VFX artists and sound engineers.

Designed specifically for editors working on high end fast turnaround work such as television commercials and even news cutting, the cut page is designed as an alternate edit page to allow users to work faster. The cut page lets editors import, edit, trim, add transitions, titles, automatically match colour, mix audio and more. The regular edit page is still available so users can switch between edit and cut pages to change editing style right in the middle of a job.

The cut page challenges the traditional way of working with innovative yet familiar concepts such as source tape mode and an A/B trim tool.

Back in the days of tape, to find a clip, editors would spool up and down the tape to see their media and select shots. With source tape mode, users no longer have to waste time hunting through bins to find the clip they need. Simply click on the source tape button and all of the clips in their bin appear in the viewer as a single long "tape". This makes it easy to scrub through all of the shots, find the parts they want, and quickly edit them to the timeline.

Zooming in and out and scrolling timelines is extremely slow. The new cut page features an innovative dual timeline so users never have to zoom in or out again. The upper timeline shows users the entire program while the lower timeline shows users the current work area. Both timelines are fully functional, allowing users to move and trim clips in whichever timeline is most convenient. Want to move a clip all the way to the end of a program? Simply pick it up from the lower timeline and drag it to the end of the upper timeline to move it down the edit.

Cut page functions come into their own when used in combination with Blackmagic's new DaVinci Resolve Editor Keyboard, a new premium keyboard



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for DaVinci Resolve that dramatically improves the speed of editing because it allows the use of two hands while editing so transport control and selecting clips can be done while performing edits.

The new DaVinci Resolve Editor Keyboard also includes a revised qwerty key layout that's been updated using feedback from professional editors. However, users still get all the traditional editing features for both the cut and edit pages in DaVinci Resolve, so the core qwerty part of the keyboard still operates in a familiar way. All the standard edit modes are included on the main keyboard. But users still get new features in the revised layout, such as a viewer button to allow instant change to full screen view, and it's even possible to edit from the keyboard in full screen view.

The keyboard includes a search dial which features an integrated electronic clutch that creates end stops when used for shuttle and position, all under software control. With multiple roller bearings, the search dial is very smooth and it can be spun in jog mode to allow a natural timeline scroll. The DaVinci Resolve Editor Keyboard will be available in August.

Meanwhile, the new DaVinci Neural Engine uses state of the art deep neural networks and learning, along with artificial intelligence to power new features such as speed warp motion estimation for retiming, super scale for up-scaling footage, auto colour and colour matching, facial recognition and more. The DaVinci Neural Engine is entirely cross-platform and uses the latest GPU innovations for AI and deep learning to provide unparalleled performance and quality. The DaVinci Neural Engine provides simple tools to solve complex, repetitive and time-consuming problems. For example, it

enables facial recognition to automatically sort and organise clips into bins based on people in the shot.

DaVinci Resolve 16 also introduces powerful new features. New adjustment clips let users apply effects and grades to clips on the timeline below, quick export can be used to upload projects to YouTube and Vimeo from anywhere in the application, and new GPU accelerated scopes provide more technical monitoring options than before. The updated Fairlight page adds elastic wave alignment so users can stretch waveforms to precisely sync dialogue replacement with video, immersive 3D audio support, new bus tracks, automation previews, dialogue sweetening tools and even more FairlightFX.

DaVinci Resolve Studio 16 also features improvements to existing ResolveFX plug-ins, along with several new plugins that editors and colourists will like. There are new ResolveFX plugins for adding vignettes, drop shadows, removing objects, adding analogue noise and damage, chromatic aberration, stylising video and more. There are also improvements to the scanline, beauty, face refinement, blanking fill, warper, dead pixel fixer and colourspace transformation plugins. Plus, users can now view and edit ResolveFX keyframes from the timeline curve editor on the edit page or from the keyframe panel on the colour page.

Video review and collaboration platform, Frame.



Optimised for DaVinci Resolve 16, Blackmagic's new DaVinci Resolve Editor Keyboard.

io, announced that its collaboration toolset is now natively integrated into DaVinci Resolve 16 Studio, in partnership with Blackmagic Design.

With Frame.io in DaVinci Resolve 16 Studio, users will have access to all their Frame.io accounts, teams, and projects right in the DaVinci Resolve Media tab, immediately on sign-in. Any Frame.io clips added to the Media Pool are automatically downloaded for use in the project – it's even possible to start cutting while the full resolution file is being downloaded in the background. Resolve will automatically swap the proxy with the full resolution file. Frame.io comments, replies and annotations are automatically synced to the DaVinci Resolve timeline, no import or export necessary. Entire timelines, or just sections, can be rendered, batch uploaded and synced at the same time to Frame.io with ease. Everything happens automatically when exporting the timeline. No further action needed. Visit <https://frame.io>

At NAB 2019, Blackmagic Design also announced Fusion 16 Studio, a major new upgrade that brings all of the improvements made to Fusion built into DaVinci Resolve available to VFX artists using the

*Continues p27>>*

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## Opinion: Time for AI, Collaboration and Parallel Workflows

By Tim Claman, Chief Technology Officer, Avid Technology

**OVER THE PAST DECADE**, the media value chain has been completely transformed. Technology advances have fuelled new consumption patterns and new business models, opening up a truly global marketplace to anyone with a compelling story to tell. These changes have led to increasingly intense competition for viewers, which has profoundly affected the post-production industry upstream of distribution. Post-production teams must now create more compelling content at higher levels of technical quality with more complex delivery requirements. Worse yet, they must do all of this within the constraints of compressed schedules and lower budgets.

To thrive in this new landscape, post-production teams need better tools. OTT content distributors like Netflix, unencumbered by the limitations of legacy infrastructure, continue to raise the bar with respect to technical quality standards. In 2019, tools vendors will respond with new capabilities that make it easier to deliver shows in 4K HDR with immersive audio. And as content customisation and versioning becomes increasingly complex, we will also see broader adoption of standards like the Interoperable Mastering Format (IMF).

While better tools will help, new advancements are emerging to help automate mundane tasks, so creatives can spend more time being creative. In 2019, Artificial Intelligence (AI) will transition from a buzzword to a mainstream technology in post production. In reality TV workflows, for example, AI can index the massive troves of source material captured by a myriad cameras, enabling fast searching for producers and editors. Interns no longer need to transcribe dailies so they can be searched – AI bots can automatically index all the raw content for you, converting speech to phonemes, so creatives can easily find the material that best tells the story. AI can also accelerate creative editorial, comparing the text in scripts to bins of dailies so editors can easily visualise their coverage for each scene and instantly audition alternate takes.

Beyond adopting new creative tools and technologies, post-production teams are always looking for ways to advance their workflows. In the past, post-production workflows were highly sequential – each step in the

process would need to be completed before the next step could begin, leading to inefficiency and inflexibility. To cope with the pressure of today's budgets and schedules, post-production teams need to collaborate, working in parallel, not series. Solutions like shared storage have become essential, enabling real-time access to all collaborators simultaneously. Media Asset Management systems, once prevalent only in broadcast environments, have now been adopted by post-production teams to enable all creative stakeholders to access, browse, and search content from anywhere, as well as perform basic logging, review, and shot selection tasks. Cloud deployment patterns will be implemented more broadly by post-production teams, providing secure centralised infrastructure with a pay-as-you-go business model that maps well to post-production projects.

In past years, the rapid evolution of the media value chain caused concern and uncertainty for the post-production industry. But as new business models have matured, content distributors are now commissioning more original content than ever before, sparking new growth opportunities for post-production professionals. Fortunately, new tools, techniques, and technologies are enabling creatives to meet the growing demand for compelling, high-quality content. What an exciting time to be involved in post production!

Visit [www.avid.com](http://www.avid.com)



## EVS Launches Ingest-to-Post Solution

**AT THE 2019 NAB SHOW**, EVS unveiled a new ingest-to-post solution that speeds live multi-camera feed ingest and post-production functions, and provides support for the 24p cinematic frame-rate routinely used in entertainment programming. The new solution leverages EVS' software-defined server technology and microservices architecture for faster, more efficient studio entertainment workflows.

The new offering is based on two new EVS products. XS-NEO is EVS' first software-defined server, providing simple, efficient ingest for studio and post-production operations. It offers dynamic, concurrent support of multiple formats, codecs and frame-rates. The new server also benefits from EVS' loop recording technology, which means frames are never missed. Built on EVS' core VIA platform of modular services and engines and hosted on EVS' reliable PMR processing module, XS-NEO embraces all of the benefits of IP connectivity, but

also supports SDI-based productions.

The IPD-VIA Ingest app is at the core of the ingest-to-post solution and is one of the first applications presented from EVS' new VIA platform. Through an intuitive HTML 5 web interface it enables the control and scheduling of live feeds ingested directly into the XS-NEO server. The EVS solution natively writes onto third-party storage as well as Avid's Interplay production management workflow solution. Content can then be edited in post-production during recording, and as a multi camera sequence. Easy-to-find metadata also reduce editors' time searching for the right shots and managing content, freeing them to focus on creative tasks.

The new products are founded on the EVS' VIA platform, which sits at the core of all new EVS solutions and is seeding the future ecosystem of live production.

Visit [news://evs.com](http://news://evs.com)

## FilmLight Introduces ProRes RAW Native Support

**THE LATEST VERSION** of the core Baselight software, version 5.2, and Daylight now support native access to the ProRes RAW format. This is one of the first full implementations of the ProRes RAW format from a professional colour grading application. The high-quality ProRes RAW image format is now available on cameras from a wide range of vendors, including Canon, Panasonic and Nikon via Atomos recorders, and directly on the DJI Inspire 2 with a Zenmuse X7 camera.

"Our philosophy has always been to provide the tools that our users need," said Wolfgang Lempp, CEO at FilmLight. "Apple ProRes RAW is a powerful, very high quality, standardised way of handling raw camera outputs that is ideal for high-dynamic-range (HDR) content creation, and controlling the colour from set to post is extremely important to production and post pipelines. We naturally wanted to provide native

support as soon as possible."

Since ProRes RAW directly encodes the Bayer pattern image from the camera sensor, the format provides access to the full high dynamic range imagery in FilmLight software. That means greater control of the contrast and colour but within a compact and manageable file size. And because support for ProRes RAW is implemented in the core 5.2 software, it is available at every stage of the pipeline. Users can ingest media using FilmLight's Daylight dailies system, which also produces viewing copies for editorial from the ProRes RAW files, and then continue to work with ProRes RAW in their project on the Baselight colour grading system.

Visit [www.filmlight.ltd.uk](http://www.filmlight.ltd.uk)





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stand-alone version of Fusion Studio.

Users get an updated and more modern user interface, along with dramatically faster performance. All 3D operations are GPU accelerated, making Fusion much more responsive and interactive. In addition, there are dozens of GPU accelerated tools such as time effects, dissolves, stereo 3D tools, vector motion blur, corner positioning, colour tools and more. B-spline and bitmap mask operations are accelerated, as are the planar and camera trackers. Improved memory management makes large compositions with high tool counts more reliable, making Fusion 16 dramatically faster and more stable than ever before.

Visit [www.blackmagicdesign.com](http://www.blackmagicdesign.com)

**BORIS FX ANNOUNCED ADDITIONS** to its creative visual effects tools - Sapphire, Continuum, and Mocha Pro.

Sapphire 2019.5 adds new creative options, including a ParallaxStrips effect, PixelSort transition, and DigitalDamage transition. The Sapphire Builder, Pre-set Browser, and Flare Designer can now access clips directly from a composition or timeline, and each features an updated modern GUI designed for Hi DPI and Retina-enabled monitors. The Builder and Flare Designer continue to improve with new core features such as Broadcast Monitor Support (AJA and Blackmagic).

Boris FX Sapphire will soon be available as an OFX plug-in for Autodesk Flame. Autodesk's upcoming 2020 release includes new support for OFX plug-ins, marking a significant transition for the advanced 3D VFX and compositing software.

Continuum adds Cinema 4D integration to Title Studio, bringing a new 3D model render engine to applications such as Adobe Premiere, Adobe After Effects, Avid, Blackmagic DaVinci Resolve, and OFX hosts. Title Studio's enhanced C4D support delivers the best rendering result out of all 3D model rendering plug-ins on any compositing or NLE platform. Title Studio's custom UI now also supports 4K monitors and adds new material shaders.

Particle Illusion adds a Forces feature that includes on-screen UI control for deflectors and attractors and a new customisable sprites feature. Primatte Studio's Academy Award-nominated keying tech adds a customisable spill control option along with new edge smooth options for heavily compressed source shots. The Transition Unit adds Particle Illusion Dissolve, a new self-animating, fully-customisable transition. Users can choose any particle emitter to create a transition or pick from dozens of pre-set particle animations.

Particle Illusion, new to Continuum 2019 and the Particles Unit, will be available as a standalone render application. The new 64-bit real-time technology renders particle effects with unrivalled speed. The custom interface allows editors, artists, and game developers to select movie type, codec, frame rate, frame size, and more. The new standalone option paired with the multi-host plug-in options for Adobe, Avid and OFX applications makes Particle Illusion the most versatile, user-friendly



Boris FX Sapphire.

particle and motion graphics generator on the market.

Mocha Pro advances its planar tracking engine with GPU accelerated tools to simplify complex effects and post tasks. Updates will include performance increases, new features, and host support for Blackmagic's DaVinci Resolve. Mocha's magnetic spline tools add edge-snapping features to deliver accurate masking with fewer keyframes, and new GPU matte optimisation makes complex Mocha projects more interactive with significantly faster renders.

Other new features include an Area Brush paint tool that defines planar tracking regions with Wacom tablet sensitivity, and a new object removal render option, Mega Clean Plates, which builds larger-than-raster panoramas from moving clips for VFX set extensions, clean plates, and 3D materials.

Visit <https://borisfx.com>



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## EditShare Takes on Majority Investment from Private Equity Firm

### EDITSHARE, THE DEVELOPER

OF intelligent scale-out storage, Automated Quality Control (AQC), editing and media management solutions, has announced it has taken on a majority investment from private equity firm ParkerGale Capital (ParkerGale). Focused on profitable founder-owned technology companies, ParkerGale's portfolio is a mix of software-oriented businesses that are supported by the firm's financial investment and in-house operating team whose mission is to help portfolio businesses rapidly scale and bring to market new innovative products and services.

EditShare founders, Andy Liebman and Tara Montford, will continue to lead EditShare innovation and customer success and remain the company's largest individual shareholders. Industry veteran, Conrad Clemson, will join the leadership team as EditShare CEO.

"ParkerGale's deep-seated history of helping profitable companies like ours achieve their next stage growth goals will enable our team to expand and develop the EditShare product range into even better solutions for our customers in the future," comments Tara Montford, Co-Founder and Executive Vice President Business Development, EditShare. "EditShare has always been extremely customer-focused and without our customers' engagement, we would not be where we are today. Riding the momentum of double-digit growth over the last three years, combined with the investment by ParkerGale, we will have the resources at hand to accelerate all our plans and deliver on our innovative roadmap while retaining that personal touchpoint with our customers."

"We are proud to offer industry-leading solutions that enable our customers to respond to market demands with greater efficiency and ultimately take advantage



[L-R ]New EditShare CEO, Conrad Clemson; Andy Liebman, EditShare Co-Founder and Chief Strategy Officer; and Tara Montford, Co-Founder and EVP Business Development.

of new opportunities to grow their businesses," comments Andy Liebman, EditShare Co-Founder and newly appointed Chief Strategy Officer. "Our incredibly talented team is dialled into our customers' needs and next steps. They are developing and delivering innovative solutions that facilitate collaboration and efficiency such as the EditShare Flow hybrid media management platform that can cut production time by as much as 50% and EFS Shared Storage

Auditing, an important content security capability that helps mitigate content theft. Our innovations span all aspects of media production from an individual storyteller who is using the Emmy-award winning Lightworks to enterprise broadcasters automating productions with EditShare's metadata-driven workflow solutions. With ParkerGale's infusion of capital, EditShare will be able to execute much faster on the many more incredible product and workflow ideas we have for all of our customers."

Leading the company through this next stage of growth is EditShare's new CEO, Conrad Clemson, who recently led Cisco's Video, Mobility, and Cloud organisations.

"Andy founded EditShare in 2003 when he needed a more flexible and affordable solution for media sharing. His invention of high-performance Network Attached Storage for editing transformed the industry in a way others weren't imagining at that time," comments Clemson. "EditShare's history of leading the industry with groundbreaking innovations and solving customer problems before they even recognize them goes deep, and with this investment, the EditShare team will be even better positioned to continue to deliver transformative solutions to an industry that is in greater demand for it now more than ever."

Visit [www.editshare.com](http://www.editshare.com)

## Qvest Media Launches Qvest.Cloud

AT NAB, QVEST MEDIA launched the multi-cloud management platform Qvest.Cloud, including Qvest.Cloud Ultimate for enterprise solutions, and Qvest.Cloud Go! which includes ready-to-use packages for media tasks such as live event production, post-production, archiving, disaster recovery or playout. The packages are pre-configured with cloud applications from leading software manufacturers.

Qvest.Cloud is built for companies that want to efficiently orchestrate, manage and monitor their media technology – either on-premise, with a single cloud provider, in a multicloud environment, or using a hybrid model. Furthermore, system resources can be scaled on demand and the cost structure of production processes can be analysed and planned. To perform these tasks, Qvest.Cloud comes with the integrated services of cloud automation, workflow orchestration, user management, monitoring, measuring and billing and cost control.

Workflows can be designed with an intuitive graphical user interface and linked flexibly with any manufacturer's application that needs to be integrated. The partner ecosystem, which currently comprises cloud applications from over 40 leading manufacturers from the media and IT industry, is constantly expanding.

The Ultimate solution is the key to complete systems integration in the cloud. Media companies and broadcasters can therefore map their end-to-end workflow using Qvest.Cloud Ultimate. With Qvest.Cloud Go!, Qvest Media offers pre-configured, ready-to-use package solutions distributed via a SaaS model, which allows flexible use and scaling. The first Qvest.Cloud Go! packages include Q.Live (live event production), Q.Create (post-production), Q.Store (archiving), Q.Safe (disaster recovery), and Q.Air (channel playout). More than 30 partner applications are currently already being orchestrated in these products.

Visit <https://qvest.cloud>

## GB Labs Analytics Center

GB LABS HAS LAUNCHED A NEW VERSION of its Analytics Center, a dashboard that runs seamlessly in the background of GB Labs' SPACE, ECHO, and VAULT intelligent storage devices, continuously analysing how data handled by the storage system is being used. It displays an accurate and easy-to-understand overview of network vitals, including real-time speed and data consumption.

GB Labs CEO-CTO Dominic Harland said, "Investigations of customer usage data have shown that the primary cause of slow read/write speed is a misconfigured internal network, but very often those issues can be difficult to locate and resolve with manual monitoring and intervention. Analytics Center removes that labour-intensive task by automating the analysis process with specially designed algorithms that identify not just potential problems, but precisely where to find and fix them. Moreover, it anticipates and identifies problems that may occur."

The new version of Analytics Center gives users total visibility into their network, both within current usage and capacity, as well as anticipated usage as much as six months ahead based on historic pattern analysis. This intelligence provides users with a far better understanding of potential issues related to their network usage and data consumption. The Analytics Center also makes recommendations on how to make usage more efficient.

Harland added, "Instead of hiring and training a systems engineer to understand the detailed characteristics of a storage system, oversee daily usage, monitor individual users, and manually sift through log files, Analytics Center delivers accurate, meaningful, real-time information that highlights issues and enables them to be identified, anticipated, and resolved quickly at a far lower cost."

Visit <https://gblabs.com>





## Switch Media Launches MediaHQ

**SWITCH MEDIA LAUNCHED** its product suite, MediaHQ, at NAB2019. Having successfully delivered complex video solutions for over a decade, Switch Media says it has "...simplified the complexity of online video so that global broadcasters and content owners can deliver a seamless viewing experience within the fastest of turnarounds."

MediaHQ uses a powerful workflow engine and houses a flexible suite of modular components that integrate with existing systems, which are supported by the company's in-house technical team to provide assistance 24/7.

MediaHQ provides broadcasters flexibility based on individual requirements. Users can tailor their workflows selecting any, or all of the components in MediaHQ's powerful product suite to manage and assist in the delivery of content for both online distribution and traditional broadcast. From

ingest, media management and preparation to distribution and analytics, broadcasters can access everything they need under one roof, on one platform to improve or augment their video workflow.

Delivering solutions for major content owners and live events worldwide, Switch Media says it has simplified the complexity of online video, so that anyone can stream and monetise content, effortlessly.

Bruce Hume, Broadcast Director, Switch Media said, "We understand the requirements to get content online fast using streamlined workflows that automate tasks to increase delivery speed and productivity. MediaHQ's flexible suite of components fits the needs of every broadcaster worldwide regardless of size or structure."

Visit [www.switch.tv](http://www.switch.tv)

## Media Room Frame Accurate Player

**DURING THIS YEAR'S NAB SHOW**, digital content management, production and distribution specialist, Silver Trak, demonstrated the very latest technological addition to its Media Room solution, a new frame accurate player that now includes clipping, markers and annotations, audio track selection, caption extraction and more.

Over the last five years Silver Trak has designed Media Room to be an agnostic content management platform. Developed for aggregating, hosting, searching and delivering media content anywhere in the world, Media Room focuses on three key concepts for content: security, availability and usage.

According to Silver Trak COO Christian Christiansen, "The new Media Room 3 player is unique as it shows proper SMPTE timecode. It also has the ability to set in and out points for clipping, create shot lists and export clips and shot lists with the added ability of transcoding. This is a first."

Media Room was developed in-house by Silver Trak Digital to not only meet the demands of content aggregation, usage and delivery, but also to allow their customers to take advantage of the economies of scale as it securely hosts

multiple clients' data and provides a affordable alternative to buying or building one-off content management and delivery systems.


Christiansen added, "The new Media Room 3 platform has the ability to overlay a canvas for annotations with the added functionality whereby markers and annotations created by several unique users can be exported as a single file based on timeline or user. In short, more functionality, more efficiency and a far more effective and useful user experience for our clients."

Media Room, now entering its third development iteration, has proved invaluable to many production and post-production companies across Australia, including sporting enterprises, streaming channels, distribution houses and independent producers and companies.

The development of Media Room continues well into the future targeting and incorporating advanced technology innovations such as live stream capture, voice to text, facial recognition and AI integration.

Visit <https://silvertrak.com.au>

## TIME TO **RETHINK** YOUR **COMPLIANCE LOGGING** SYSTEM?

- 
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  - ☐ **Software support expired?**

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## ZOO Digital to Revolutionise Content Localisation

**ZOO DIGITAL** is continuing its mission to revolutionise entertainment localisation services with the launch of its cloud-based ZOOstudio ecosystem. The service ecosystem aims to simplify localisation for content owners, increase vendor collaboration and reduce supply chain wastage.

Designed to address the challenges of OTT distribution, ZOOstudio provides content owners with a centralised system for ordering, tracking and managing all the services required to create localised content packages. ZOO's collaborative approach sees services such as dubbing, subtitling, metadata localisation and media processing delivered either by ZOO as the end-to-end vendor or in combination with clients' other preferred global vendors.

The ZOOstudio ecosystem brings together ZOO's existing, battle-tested platforms. It enables content owners to have all their vendors working together in one cloud system, with assets and reference materials shared between vendor workflows to increase efficiency and reduce duplication. With a single point of order and fulfilment, content owners are no longer required to track projects across multiple vendor-specific systems; ZOOstudio gives full visibility and live consolidated status reporting across all vendor production workflows.

According to ZOO President, Gordon Doran, "The time has come for service



# ZOOstudio

vendors to work together to support content owners to achieve their goals. In ZOOstudio, we have created the single ecosystem that clients need to centralise and manage their end-to-end services across all vendors. Content owners will be able to share reference materials, assets and data across global workflows to simplify and speed up content distribution.

"This is how localisation would have always been done if cloud technology had always been around. Services are centralised, streamlined, collaborative and secure. Duplication of costs and processes is reduced, and content owners have the freedom to choose their preferred services and vendors while managing the entire process all in one place – ZOOstudio."

Visit [www.zoodigital.com](http://www.zoodigital.com)

## New NVMe Flash Platform from Quantum

**QUANTUM USED THE RECENT** 2019 NAB Show to launch a new NVMe all-flash storage platform that is designed to accelerate media workflows. The company also announced general availability of StorNext 6.2, a major new release of the company's award-winning StorNext scale-out file system. StorNext 6.2 is now shipping with the latest generation Xcellis appliances, the solution of choice to ingest, edit, share and store media content and provide an improved technical foundation for organisations to run their operations.

As content creators deal with more and more UHD content, emerging storage technologies like NVMe are intended to help customers dramatically improve performance while simplifying their infrastructure. Quantum's new NVMe all-flash appliances combine 100 percent NVMe storage media with a new software defined block storage architecture and StorNext, which is expected to deliver ultra high-performance storage capabilities for the most demanding environments.

StorNext 6.2 bolsters performance for high resolution video while

enhancing integration with cloud-based workflows and global collaborative environments. With StorNext 6.2 Quantum offers an S3 interface to Xcellis appliances, enabling them to serve as targets for applications designed to write to RESTful interfaces. In addition, enhanced FlexSync replication capabilities enable users to create local or remote replicas of multi-tier file system content and metadata, offering more flexibility to protect a single directory or an entire file system.

The new Xcellis models offer the latest 100 Gb ethernet and 32Gb fibre channel connectivity options, enabling customers to utilise the latest generation networking infrastructure between their clients and storage arrays, thereby accelerating workflows and improving productivity. Combined with StorNext's comprehensive and coordinated file accessibility over NAS, SAN, and DLC architectures, the new Xcellis platform offers industry-leading architectural flexibility.

Visit [www.quantum.com](http://www.quantum.com)

## Signiant Introduces Patent-Pending Intelligent Transport

**AT NAB 2019**, Signiant Inc, a provider of intelligent file transfer solutions, introduced its new patent-pending intelligent transport architecture. The architecture replaces standard TCP with a proprietary UDP-based acceleration protocol or will automatically deploy multiple TCP connections in parallel, depending on network conditions. The technology determines the fastest way to get data through the network utilising a patent-pending mechanism that leverages machine learning to make decisions on the fly. The transport is capable of multiple Gbps transfer speeds for both site-to-site transfers as well as transfers to and from the cloud.

The new architecture is already deployed in two of Signiant's cloud-native SaaS products:

- Flight which accelerates file transfers to and from the cloud.
- Jet for simple, fast, automated system-to-system file transfers.

"As networks evolve and increase in bandwidth, many incorrectly assume that acceleration technology is no longer required," said Signiant CTO, Ian Hamilton. "Network bandwidth and network throughput are not the same and Signiant is able to provide even more value on higher bandwidth connections. Our new intelligent architecture supports all types of transfers including site-to-site, site-to-cloud and cloud-to-cloud transfers of both files and streams with no constraints on file size or type."

In order to take full advantage of available bandwidth, Signiant's machine learning algorithm examines past history and optimally configures application and transport-level transfer parameters for both file-based and live media transfers. Not only does this ensure the best result without expensive and error prone manual tuning and tooling, but results improve over time as the



system learns. In addition to Signiant's patent-pending intelligent transport, Signiant's core UDP-acceleration protocol offers distinct advantages. Signiant isolates different sources of congestion by looking at latency and packet loss, and also by constantly examining the rate of change in these observations. As such it can differentiate between edge and core network congestion and react accordingly.

Visit [www.signiant.com](http://www.signiant.com)



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THAT...  
supports the  
SMARTPANEL  
concept



THAT...  
integrates BOLERO,  
the state-of-the-art  
wireless intercom



THAT...  
loads a full  
configuration in  
less than 3 seconds



## Shure Handles Mission Critical RF for Oz Day Live

ON JANUARY 26 2019, all around Warrane (Sydney Cove), solemnities, ceremonies, and performances took place to mark Australia Day. Starting off at 7:45am with a smoking ceremony at Walumil Lawns, Barangaroo, a full programme of events was staged at multiple sites, including a citizenship ceremony at Tallawoladah (Campbell's Cove), the Governor General's speech from the deck of the HMAS Choules moored in Circular Quay, and culminated in the Australia Day Live Concert broadcast by the ABC from the Forecourt of the Sydney Opera House.



A massive production undertaking with incredibly demanding wireless channel counts, the celebrations ran flawlessly thanks to Shure Digital, superior frequency management, tight collaboration between production providers 8th Day Sound and Innovative Production Services, and Shure wireless experts from Jands.

Jands' Peter Twartz handled wireless spectrum management across all sites on the day, working out of the main event control room at Circular Quay's Overseas Passenger Terminal. With a fibre network linking all stages, three Shure Axient AXT600 Spectrum Management units deployed around the cove, and Shure's Wireless Workbench software in his toolbox, Peter had total control and visibility of multiple wireless zones and dozens of devices from his laptop, no matter where he physically connected.

"With Wireless Workbench, I had everything in one master show file, so I could see where the potential intermodulation points were," explains Peter. "At this event, there were so many RF devices in coverage 'earshot' of each other, that having an overall plan and visibility of every system was of paramount importance. For example, at one point I was standing on the Opera House Forecourt stage with my laptop connected and showed a colleague a display of all the in-ear-monitor transmitters I could pick up. He said, 'Yep, looks good,' and then I pointed out that they were all the in-ears from across the cove at Tallawoladah."

Active channels on the Opera House Forecourt comprised 12 Axient Digital AD4D dual channel receivers paired with 16 AD2 handhelds and eight AD1 bodypacks, and eight PSM 1000 dual channel personal monitor transmitters paired with 24 of its matching beltpacks. Tallawoladah was running six Axient Digital AD4D dual channel receivers with eight AD2 handhelds and four AD1 bodypacks. First Fleet

Park ran two stages equipped with Shure ULX-D wireless mics.

HMAS Choules carried four Shure UR4D receivers paired with four UR2 handheld transmitters and four UR1 bodypacks. Finally, a PSM 1000 personal monitor transmitter and two beltpacks ran out of the Overseas Passenger Terminal transmitting to a floating stage.

"The bottom line is, I could not have packed that many channels into the available spectrum with an analogue wireless system," surmises Peter. "Shure Digital's channel capacity is much greater than analogue, and it's much more immune to

interference, especially with Shure's digital diversity technology. Shure Axient is a step beyond everything else available."

For the all-important live broadcast on the Opera House Forecourt, the hosts were fitted with Axient Digital ADX1 bodypack transmitters, whose ShowLink capabilities allow operators to monitor and control them remotely, including seamlessly changing level and frequency if necessary. Four channels of ADX ran with the receivers in Quadversity mode, receiving signal from two separate pairs of antennas, from which Axient automatically selects the strongest signal. This allowed the presenters to roam between wireless zones, an almost impossible task with any other RF equipment.

"Shure's Axient Digital provided crystal-clear audio in what is a very hostile RF environment," says Ian Cooper, freelance sound engineer who mixed FOH PA for the Opera House Forecourt. "Using a mixture of AD on stage and ADX on the hosts for redundancy ensured solid coverage as the hosts moved from the stage, through the audience, and along the Opera House steps."

"Shure Axient Digital is a huge sonic improvement over analogue," concurs Simon Farrell, Project Manager at 8th Day Sound. "We began using Axient Digital at the Opera House forecourt for Australia Day 2018 and after the great results increased our inventory to cover all our RF needs for the whole site in 2019. It's simply a better sound, and RF coordination is a lot easier."

"The Shure ULX-D we ran on the First Fleet Park stages didn't miss a beat," adds Innovative Production Services' Luke Boyd. "We always use Shure because of the superior sound and reliability, and even in the midst of all of the RF channels around this huge event, the signal stayed robust and free of interference."

Visit [www.jands.com.au](http://www.jands.com.au) and [www.shureasia.com](http://www.shureasia.com)

## Alpha Audio Takes Avid's Latest Venue Control Surface

**AVID HAS ANNOUNCED** that Melbourne-based Alpha Audio, suppliers of high-end audio equipment, solutions and services, is the first company within the Australia and New Zealand region to take delivery of the new Avid VENUE S6L-24C control surface.

Forming part of the expanded Avid VENUE | S6L unified live sound platform, the Avid VENUE | S6L-24C control surface is a more compact and affordable variant of the S6L-24D control surface, providing powerful performance and proven S6L workflows in a streamlined package. Featuring 24 faders, 32 assignable knobs, and an integrated central touchscreen, S6L-24C is suited to festivals, corporate events, and live sound installations.

The delivery was facilitated by Bruce Johnston from JPJ Audio who has vast experience with the Avid VENUE products and live production, having been in the business since 1970.

"Alpha Audio engages predominantly in corporate event work, and we had been contemplating the purchase of a new console for some time," said Terry Ferguson, Owner and Operator of Alpha Audio. "We road-tested a number of new-to-market consoles and the S6L-24C delivers the perfect

footprint and allows for much quicker load-ins and load-outs. Its compact size offers 112 inputs and 48 outputs, which is enough ins and outs for larger events. Using AVB means we can use our pre-existing Cat5 multicores instead of purchasing new multicores that would only be relevant to that console."

The fully modular Avid VENUE | S6L is suitable for a wide-range of applications including front-of-house, monitor, broadcast, and theatre. It offers 100% software, hardware and show file compatibility, enabling engineers to scale systems up or down to meet their changing requirements for control, processing, and I/O. The VENUE | S6L platform features the same VENUE software and workflows across every model.

"Whilst Alpha Audio is yet to try the Pro Tools Virtual Soundcheck functionality, we're confident that the already familiar VENUE software will be encouraging for those moving from older Avid legacy consoles and we look forward to our users reaping the benefits," said Ferguson.

Visit [www.avid.com/S6L](http://www.avid.com/S6L)





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## Pro Tools 2019 Delivers More Power

**AVID HAS ANNOUNCED** the immediate availability of Pro Tools 2019. According to Avid, this latest version of the industry-standard digital audio workstation boosts power and performance for every level of user – from professional music creators and aspiring artists to top-echelon audio post professionals and engineers – enabling them to work faster and more creatively on the most complex projects.

For users working in high track-count environments, such as audio post production, Pro Tools | Ultimate delivers 50 percent more voices/audio tracks than previous versions. In addition to this base voice limit increase to 384, Pro Tools | Ultimate software and HD Native customers will be able to further increase the number of available voices up to 768 per system – on par with a three-card Pro Tools | HDX system – with the addition of native Pro Tools | Ultimate Voice Packs. The ability to scale the number of voices

in Pro Tools | Ultimate software enables a greater degree of flexibility and power to tackle the most demanding work and when working in tandem with high-powered HDX systems.

Additionally, this release of Pro Tools has enhanced playback features that enable more fluid creativity in the software. Users can perform seamless track and timeline interactions during playback – inserting plugins, adding or deleting tracks, changing routing, adjusting loop duration and more. This suite of playback features allows users to work quickly, and therefore more productively, without playback errors disrupting their flow.

For Pro Tools | First users, they can now create and save an unlimited number of projects locally. Users can selectively sync up to three projects to their complimentary cloud storage for easy access anytime, anywhere.

For facilities and institutions, Avid also announced



the immediate availability of Pro Tools Multiseat Network Site Licensing. Multiseat licensing enables easy administration of multiple Pro Tools seats from a single account and local server, eliminating the need for a multitude of physical iLok dongles and cumbersome site management.

Visit [avid.com/products/pro-tools-ultimate/whats-new](http://avid.com/products/pro-tools-ultimate/whats-new)

## Sony Launches High-Quality Wireless Mic Systems

**AT NAB 2019, SONY ANNOUNCED** a new addition to its UWP-D series wireless microphone systems, offering superior sound quality by supporting Multi Interface Shoe (MI shoe) and a newly added digital audio interface. The new UWP-D series enables direct digital audio recording and delivers high sound quality with low noise by skipping the D/A and A/D process in combination with a new SMAD-P5 MI shoe adaptor and Sony's XDCAM camcorders PXW-Z280 and PXW-Z190. The new UWP-D series also achieves advanced integration with the camcorders and show audio information on the viewfinder for enhanced usability in the field.

The new UWP-D series microphones include a unique 'NFC SYNC' feature, which gives audio professionals a simple and fast frequency setting between the transmitter and the receiver. The reduced size and lightweight microphones offer high levels of mobility required for a wide range of applications, including news production, field production, documentaries, sporting events and weddings.

Available from October 2019 onwards, the new UWP-D series will all include the following range of new audio components:

- UWP-D21: URX-P40 Portable Receiver and UTX-B40 Bodypack Transmitter.
- UWP-D22: URX-P40 Portable Receiver and UTX-M40 Handheld Wireless Microphone.
- UWP-D26: URX-P40 Portable Receiver and UTX-B40 Bodypack Transmitter and UTX-P40 Plug-on Transmitter.

The new UWP-D series offers easy integration with Sony XDCAM camcorders, the PXW-Z280 and PXW-Z190, sharing audio information such as RF level meter, audio mute status and a low battery alerts for the transmitters, and display them on the viewfinder. Utilising the SMAD-P5 MI shoe's versatile feature, it allows audio



signals to be transmitted from the wireless receiver to a connected camera without a cable connection. An additional benefit of this feature is the ability to unify power management, as the wireless receiver is now able to receive power from the camera, whilst the camera is capable of synchronising power on/off with the receiver. SMAD-P5 is also compatible with selected models of Sony cameras, which have MI shoe with analogue audio interface.

As one-man operation by videographers increases in popularity, simple and quick channel setting for reliable RF transmission is becoming crucial. Delivering enhanced usability, the new and unique 'SYNC' feature is designed for easy and fast frequency setting. Simply holding the NFC SYNC button on the receiver for a few seconds, it automatically scans the appropriate frequency. Thereafter, users just need to touch the receiver with the transmitter to transfer the channel for optimum speed and efficiency.

The new UTX-B40 bodypack transmitter has been reduced by approximately 20% compared to the previous model size, and the length of the URX-P04 receiver with the new SMAD-P5 MI shoe adaptor has been drastically shortened, making it easy for use with compact camcorders or smaller digital interchangeable lens cameras.

Visit [www.sony.com.au](http://www.sony.com.au)

## Shure TwinPlex Lavalier and Headset Mics

### AT THE 2019 NAB

**SHOW,** Shure unveiled TwinPlex, the Company's new line of premium subminiature (5mm) omnidirectional lavalier and headset microphones.

Designed to stand up to the toughest conditions, TwinPlex provides natural audio at both high and low frequency when professional vocal performance is a must. The new patent pending capsule technology offers best-in-class sound in an easy-to-conceal package, ideal for quick costume changes or discreetly placed under wardrobe with no impact on sound quality. Developed with input from leading audio professionals, TwinPlex supports the diverse needs of theatre, broadcast, film and television, and corporate presentations to produce high-quality audio production with superior dependability.

TwinPlex consists of four lavaliers (TL45, TL46, TL47, TL48) and an ultra-light, fully-adjustable headset microphone (TH53) in multiple colors with extensive accessories and options. The unique dual-diaphragm omnidirectional design yields extraordinary off-axis consistency and industry-leading low self-noise creating lifelike vocal clarity and warmth.

To simulate years of intense use, the ultra-thin, TwinPlex cable was flexed, stretched, and pulled to the absolute limit in internal tests. Available in 1.1mm and 1.6mm options, the paintable cables are immune to kinks and memory effects, resulting in never-before-seen flex performance due to an innovative spiral construction with redundant shielding.

Suitable for unpredictable, high-stakes environments like theatre or reality TV, TwinPlex was pushed to the boundary during development and field testing to ensure flawless audio regardless of the condition it encounters. The superhydrophobic coating and interchangeable sweat-resistant frequency caps keep perspiration and moisture from upstaging the audio, while the medical-grade cable technology flexes to fit the costume design and demanding schedules that often come with associated uses.

Visit [www.shure.com](http://www.shure.com) and [www.jands.com.au](http://www.jands.com.au)







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[sennheiser.com/SK6212](https://sennheiser.com/SK6212)

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## TSL Products' PAM-IP Audio Monitoring Range

**THE RECENT NAB SHOW SAW TSL PRODUCTS** feature its PAM-IP audio monitoring range, which now fully supports the SMPTE ST-2110 standard.

Following the ratification of ST-2110, TSL can now offer two audio monitors for use in IP infrastructures. Both the PAM1-IP and PAM2-IP audio monitors can be deployed to monitor audio and video content carried as ST-2022-6 and/or ST-2110 flows. With support for 2110-10, -20, -30 and -40, the PAM1-IP and PAM2-IP are quickly becoming the 'eyes and ears' for those requiring the best in audio monitoring technology, with over 200 units sold worldwide.

With two 10Gig/E SFP+ ports included on the PAM1-IP and PAM2-IP, users can monitor audio carried within ST2110 and ST2022-6 multicast streams. Both units also display the accompanying video content on the front panel of the unit, providing a full confidence monitoring experience. Customers can also use PAM1-IP and PAM2-IP to

monitor audio only content such as Dante or AES67 audio flows when connected to a low-cost IP network infrastructure. The PAM-IP also now supports Ember+ protocol for control within IP networks.

TSL Products also unveiled its new SAM-Q audio monitoring platform at the NAB Show.

SAM-Q represents a new approach to audio monitoring, allowing customers to determine how they wish to control and visualise their audio content based on application, environment or simple personal preference. Designed in direct response to customer requirements and feedback, SAM-Q provides a completely new user experience and seeds the next generation of TSL's audio monitoring range.

The SAM-Q-SDI is the first audio monitor to



realise the benefits of TSL's new SAM-Q audio platform. Designed for customers operating with SDI infrastructures, the SAM-Q-SDI demonstrates exactly how customers can maximise operational efficiency and reduce operational error simply by choosing their preferred method of interaction. From the most demanding engineer to the operator who simply needs to listen to their chosen source, the SAM-Q-SDI caters for all.

Visit <https://tslproducts.com> and [www.proaudiotv.com.au](http://www.proaudiotv.com.au)

## Riedel's Artist-1024 Node Redefines Comms Connectivity

**AT THE 2019 NAB SHOW**, Riedel Communications unveiled the new Artist-1024 node, an expansion to the Artist intercom ecosystem. In what the company described as "the next piece of the puzzle", this communications node features higher port densities and full SMPTE 2110-30/31 (AES67) compliance.

The Artist-1024 node boasts 1024 non-blocking ports in just 2RU. This latest addition to the Artist ecosystem introduces a range of technical innovations centred on software-definable Universal Interface Cards (UIC). This new type of interface card combines networking, mixing, and management, and can be configured to act as an AES67 or MADI subscriber card, or as an Artist fibre/router/processor card. Changing the connectivity type is as easy as reconfiguring the UIC with the click of a button in the Director configuration software.

The frame provides ten bays for UICs, with two being reserved solely for routing and networking UICs. The remaining eight bays can be equipped with UICs of various configurations to provide subscriber connectivity. The integral mixer on each subscriber card can be scaled from eight to 128 ports per card and can access all 1,024 ports of the Artist backbone. In addition, four expansion slots are available for various GPIO or synchronisation applications.

Artist-1024 also introduces a new user-friendly, flexible licensing scheme with frame-level licensing instead of connectivity-type licensing. Each node starts with a Virtual Artist Matrix (VAM) license, which includes a defined number of ports (16 to 1,024) that can be freely distributed across the node's subscriber cards. Besides these node-locked licenses, there are also flexible licenses that allow for a fast reconfiguration of the system by simply moving capacities between nodes.

Riedel's newest Artist node has been designed with redundancy at its core. By supporting multiple redundancy schemes, including N+1, NIC, and SMPTE 2022-7, it can provide an unprecedented degree of robustness and reliability. All control logic and data links within the frame are redundant, and additional security is provided by two load-sharing PSUs and a fan module with redundant fan units.

Visit [www.riedel.net](http://www.riedel.net)



## Lawo mc²56 Production Console Intros Dual Fader Bay

**AT NAB2019, LAWO SHOWCASED** a new option for its third-generation mc²56 audio production console: a dual-fader operating surface that increases fader count while keeping console size small.

With this new option, mc²56 can host up to 144 faders within its compact footprint. The dual fader option also incorporates Lawo's LiveView thumbnail previews of associated video streams directly in the fader strips, enhancing user accuracy in fast-paced production situations.

Lawo's third-generation mc²56 is optimised for today's complex IP-video production environment. It features native support for SMPTE 2110, AES67 / RAVENNA, DANTE and MADI audio streams. The mc²56 has also adopted the SMPTE 2022-7 standard for Seamless Protecting Switching (SPS), delivering dual-redundant IP-network links to its Nova73 routing engine.

Other features include IP-Share Network Gain Compensation, which prevents unexpected gain changes during simultaneous use of up to eight networked consoles. Each of the console's fader bays can either be equipped with the new dual-fader module or the standard fader module with an extended free control section giving direct access to as many as four global or individual parameter assignments on each channel strip. The mc²56's color-coded Button-Glow controls, touch-sensitive encoders and color TFT displays provide clear color-coding of channel strips for enhanced visibility and fast access in low light. Built-in loudness metering is standard, with

full loudness control adhering to ITU 1770 (EBU/R128 or ATSC/A85) specifications. Peaks and loudness can be monitored together, or separately.

mc²56 is suited to broadcast applications, with multi-user operation, advanced mix assist systems (AutoMix, upmix, downmix and optional Lawo KICK), Audio-Follow-Video functionality, integrated 3D/immersive mixing tools and parallel compression.

For recording applications, mc²56 provides dynamic time-code automation, Lawo-grade mic preamps and processing, DAW remote control and a customisable signal chain with four independent dynamic modules.

Features tailored to the performing arts include Selective Recall, Oversnaps (relative trim-sets), theater automation cue list including multiple triggers (MIDI, GPIO, LTC), Waves SoundGrid and Neumann DMI-8 digital microphone integration, and mirror-console operation.

Available in frames from 16 to 144 faders, mc²56 supports a massive 8,192 x 8,192 crosspoints, with up to 1,024 DSP channels, 192 summing buses and 128 Aux buses at 44.1 – 96kHz operation. With a 96 dual-fader surface suited to most OB vehicle dimensions, a 16-fader stand-alone extender may be added to an mc²56 for subsequent expansion. Comprehensive local I/O includes 16 Lawo-grade Mic/Line inputs, 16 Line outputs, eight AES3 inputs and outputs, eight GPIO, and a local MADI port (SFP).

Visit [www.lawo.com/products/audio-production-consoles](http://www.lawo.com/products/audio-production-consoles) and [www.proaudiotv.com.au](http://www.proaudiotv.com.au)





## SCA Launches Addressable Ads for Streamed Radio Channels

**SOUTHERN CROSS AUSTEREO (SCA)** has announced InStream – an addressable live radio offering enabling the dynamic insertion of personalised and targeted audio ads into its live streamed radio commercial breaks across all connected devices including SCA websites, apps and smart speakers.

InStream offers SCA's clients' access to an addressable live radio streaming environment, in addition to music streaming through the recently announced, exclusive partnership with SoundCloud. The two will be used in tandem to offer clients addressable digital audio solutions with a combined commercial reach of over three million users in premium and brand safe environments, adding further depth to an already market-leading offering. The InStream platform delivers a mid-roll audio ad break inserted into Hit and Triple M live streams on both websites and apps. Ads can be submitted to SCA in either .mp3 or .wav file formats with durations of 15 or 30 secs, and all creative is subject to SCA QA approvals.

SCA's Chief Sales Officer, Brian Gallagher said, "Audio platforms are proliferating and audio as a medium has never been more important in maximising reach of your target audience. This scaled development gives buyers the opportunity to rapidly gain reach of targeted consumers



wherever they are. Instream represents the future of audio, available to advertisers now."

SCA's InStream product has been in the beta stage for a number of months to ensure that the technology and commercial offering are ready for both clients and listeners.

The InStream launch follows an announcement by SCA and audio platform SoundCloud of an exclusive advertising partnership in Australia. Through the agreement, SCA serves as the single point of contact for advertisers in the market to reach SoundCloud's audience.

As a result of the partnership, SCA will be able to offer clients digital audio solutions across SoundCloud, Live Radio Streaming & Catch Up Radio Podcasts with a commercial reach of over three million monthly users.

SCA's Chief Sales Officer, Brian Gallagher said, "The partnership with SoundCloud will enhance SCA's ability to provide advertisers with extraordinary reach in the digital audio space. We are looking forward to bringing real scale to the digital audio marketplace with our combined offering."

SoundCloud's Chief Operating Officer, Michael Weissman said, "Australia is a key market for SoundCloud. We look forward to offering advertisers more opportunities to reach our audience of tastemakers who are driving what's next in music culture."

"With SCA as our dedicated partner, we'll be able to leverage their incredible reach and leading sales support team as we continue to grow our service in Australia."

The digital audio market is seeing significant growth with the recent IAB Audio State of the Nation Survey stating that 84% of buyers intend to invest in Digital Streaming Audio in 2019.

SoundCloud's audio and video inventory is available programmatically and directly.

Visit [www.southerncrossaustereo.com.au](http://www.southerncrossaustereo.com.au)

## Changes to South Australian Radio Services

**LISTENERS OF THE** commercial radio station 5MU in the South Australian centres of Murray Bridge, Mount Barker and Victor Harbor may soon be retuning their radios if the Australian Communications and Media Authority (ACMA) accepts a proposal by the station to swap from AM to FM transmission.

"FM radio provides improved audio quality for listeners in regional areas and can be more cost-effective to operate than AM radio," said ACMA Chair Nerida O'Loughlin. "A number of regional commercial radio stations are seeking to convert their services to FM under an industry-led conversion program."

"The ACMA will facilitate a conversion after taking a number of issues into account. These include availability of suitable spectrum and being satisfied that audiences in regional areas do not lose radio services under that proposal."

The ACMA is also proposing to plan a new long-term community radio broadcasting service for Mount Barker, which is currently served by temporary community broadcasting services.

"We now want to hear from the audiences in Murray Bridge, Mount Barker and Victor Harbor about these proposals," Ms O'Loughlin said.

Submissions on the proposals are due by 14 June 2019. If the ACMA decides to approve these conversions, the timing of the FM conversion would be up to the commercial broadcasters.

If the new community service is approved, the ACMA may then proceed to a merit-based allocation of the licence.

Visit [www.acma.gov.au](http://www.acma.gov.au)

## Commercial DAB+ Radio in Darwin and Hobart

**LISTENERS IN DARWIN**, the capital of Australia's Northern Territory can now tune into commercial radio in digital quality sound, with the official switch on of permanent digital radio broadcasts on DAB+.

The digital radio offering includes three extra DAB+ only commercial stations on air – KIX Country Music, Classic Rock Digital and 4TAB.

Low-powered trial DAB+ services have been on air in Darwin since 2010, but permanent installation and higher power transmissions mean consumers can now access the full benefits of digital radio.

Listeners need to purchase a DAB+ radio to enjoy the services, however, 68% of all new cars sold in Australia now come with digital radio factory fitted.

"Darwin listeners can now enjoy the full benefits of DAB+ on par with the services offered to audiences in the six other state capitals," said Joan Warner, chief executive officer of industry body Commercial Radio Australia.

Alison Cameron, chief executive officer of Grant Broadcasters, said, "We're pleased the trial services are now permanent, so we can keep improving local radio for listeners and fully utilising the benefits of the technology."

The Darwin launch follows hot on the heels of

Hobart in Tasmania which now boasts three new DAB+ commercial stations – KIX Country, Easy Hits and Triple M Classic Rock.

Alison Cameron, chief executive officer of Grant Broadcasters said, "We're pleased our Hobart listeners have permanent DAB+ broadcasts and we hope they will enjoy our new DAB+ station KIX Country."

Southern Cross Austereo chief executive officer, Grant Blackley said, "DAB+ digital radio continues to grow and we're excited to introduce SCA's DAB+ stations to Hobart listeners."

Commercial stations on DAB+ radio in Hobart include: Hit100.9; Triple M Hobart; 7HO; Easy Hits – Continuous Feel Good Favourites; Triple M Classic Rock – Classic rock that has stood the test of time; and KIX Country Music – Hottest country music across Australia.

Digital radio was introduced in the five major capital cities in 2009. More than 4.21 million people, or 30% of the population aged 10 and over, listened to DAB+ digital radio each week in the five metro capital cities in 2018. The total number of DAB+ radios in Australia, including those in cars, rose to 4.73 million at the end of 2018.

Visit [www.digitalradioplus.com.au](http://www.digitalradioplus.com.au)



## Broadcast/IT Convergence for Audio over IP

### GATESAIR HAS

**UNVEILED** Intraplex Ascent, a scalable, multichannel Audio over IP transport solution that addresses the convergence of broadcast operations with IT infrastructure.



Ascent offers a direct connection to traditional digital and analogue audio interfaces, and is compliant with both the AES67 standard and today's leading AoIP networking solutions (Ravenna, LiveWire+ and Dante). Ascent is available in two form factors: a 1RU server, with configurable options for physical and AES67 channels, and a software-only solution that operates in a virtualised container. Both versions support up to 32 audio channels (AES3, AES67, analogue) and are interoperable with most Intraplex Audio over IP codecs.

The software-defined solution is GatesAir's first Intraplex system to live on a COTS x86 server, and provides broadcasters with a highly scalable, redundant and cloud-based transport platform for multichannel contribution and distribution. The platform streamlines installation and management by removing the need for many separate codecs and auxiliary hardware components, freeing multiple equipment racks in enterprise-level facilities.

Ascent adds further value by allowing users to manage many Secure Reliable Transport (SRT) streams on a centralised platform – an in Audio over IP networking for broadcasters. SRT is a low-latency open source media streaming protocol which provides packet encryption and re-transmission capabilities for reliability and security. To further strengthen stream robustness and reliability, Ascent integrates Dynamic Stream Splicing (DSS), an Intraplex technology that diversifies SRT data across redundant networks. The addition of DSS to SRT will add protection against certain types of packet losses and complete network failures.

Visit [www.gatesair.com](http://www.gatesair.com)

## SIP-Capable Codec for Broadcast Audio Transport

**CONTINUING TO EXPAND** its audio over IP transport solutions, Barix has introduced its MA400 SIP Opus Codec. It combines the dynamic flexibility and ease of SIP-based link establishment with the quality and efficiency of the Opus compression format.

The MA400 encodes and decodes audio signals using the open standard Opus codec, a royalty-free audio compression format known for quality and reliability in interactive speech and music transmission over the internet. The efficient, low-latency Opus format is also gaining increasing popularity in other audio applications including VoIP, audio conferencing, in-game chat and remote live music performances. The MA400 is Barix's first encoding and decoding product to incorporate the Opus codec.

The MA400 builds on the Opus codec's quality, efficiency and low latency with SIP functionality to establish seamless links across SIP-compatible telephone, radio or other communications systems. Ideal for remote contribution applications, the SIP functionality in the MA400 allows the Barix unit to dial another device or phone number and automatically negotiate a transmission link for audio streaming.

"Advanced broadcasters are moving away from static setups to SIP-based link establishment, particularly for remote contribution back to the studio such as from sporting events," said Reto Brader, CEO, Barix. "That's where the MA400 SIP Opus Codec comes in, establishing the connection through dial-up and then encoding and decoding the audio signal. Our Exstreamer family continues to be the solution of choice for static studio-to-transmitter (STL) applications, but for SIP-based remote broadcast links the MA400 SIP Opus Codec is perfect."

Built on Barix's latest-generation, high-performance IPAM 400 audio module, the MA400 SIP Opus Codec features an analogue, microphone-level input and line-level output. The new units share the same space-efficient form factor and durable build quality as Barix's Exstreamer 100 product family.

Visit [www.barix.com](http://www.barix.com)

## Dejero and Source Elements Boost Audio Files from the Field



### DEJERO, A DEVELOPER

OF cloud-managed

solutions that provide video transport and Internet connectivity while mobile or in remote locations, is joining forces with Source Elements, a high-quality audio software provider allowing users to work remotely and collaborate effectively over the internet. This technology partnership means that broadcast teams can achieve faster remote audio file transfers from the field – using a combination of the Dejero GateWay Smart Blending Technology and Source Elements' Source-Connect ISDN replacement.

The mix of Dejero GateWay and Source Elements' Source-Connect allows users to reliably send live audio from anywhere in the world to any location of their choosing in real-time. Dejero's Smart Blending Technology intelligently combines all available network connections, creating a single virtual 'network of networks' that is robust and reliable. This enables Source Elements users to confidently send high-quality live audio broadcasts from remote locations.

"Dejero's Smart Blending Technology gives field production crews greater freedom when producing live remote broadcasts by providing high reliability internet connectivity and flexibly using available IP connectivity," explained Todd Schneider, chief technology officer, Dejero. "Source-Connect runs on a laptop connected to a Dejero GateWay router and the real-time, low-latency, high-quality audio is sent directly to the desired destination."

Dejero GateWay provides field broadcast teams with reliable mobile connectivity by blending together wireless networking technologies from multiple providers, creating higher throughput over a secure connection. With access to reliable Internet connectivity on location, news, sports and live event broadcasters and media production companies can perform more activities remotely.

Source Elements is an industry-standard ISDN replacement with a deep feature-set for all remote audio recording and monitoring needs. Portable, high-quality and secure, it allows a user to record and monitor from anywhere in the world, using your professional tools. It has remote-recording solution support for most DAWs and set-up for almost every OSX and Windows system.

Visit [www.dejero.com](http://www.dejero.com).

## ENCO Debuts Studio in a Cloud Strategy

### ENCO'S SECOND-GENERATION

WebDAD platform is a key component of the company's 'Studio in a Cloud' strategy.



WebDAD empowers cloud-based operation through an updated, HTML5-enabled user interface. Users have the freedom of a fully-virtualised platform to remotely access and control their studio-based ENCO DAD radio automation systems – a benefit made all the more powerful with the addition of ENCO's Presenter On-Air interface. This interface further optimises ENCO's modular, touchscreen design for customising production workflows and providing instant access to media libraries, playlists and more.

"WebDAD has evolved to support a true 'Studio in the Cloud' operation that removes the limitation of maintaining an on-premises physical workstation," said Ken Frommert, President, ENCO. "In addition to reducing operational costs at the station, WebDAD customers have broad control and playout capabilities across on-air presentation, playlist manipulation, voice tracking, and other workflow tasks. With the powerful ENCO Presenter On-Air interface, WebDAD is the most powerful and comprehensive browser-based interface on the market."

Fommert adds that WebDAD also helps stations work more freely with on-air and production talent around the world by making it easy to bring in part-time, contract, and remote staff to access the playout system from anywhere there is an internet connection.

Visit [www.enco.com](http://www.enco.com)





## Barix and Digigram IP Audio Codecs for Radio

**BARIX IS WELL KNOWN** by broadcasters for providing reliable, high-quality and affordable IP audio products backed by world-class technical support. Digigram has developed some of the most advanced AoIP codecs on the market. The two companies have worked together on occasional projects in the past, and are expanding their collaboration with the new Barix XLINK by digigram series.

Barix XLINK by digigram audio codecs are designed to provide reliable, 24/7/365 delivery of high-quality audio for studio-to-transmitter link (STL), studio-to-studio link (SSL), DVB audio and internet radio applications. Four 1RU rack-mountable configurations let broadcasters choose exactly the right model for their audio infrastructure and application requirements:

- The Barix XLINK ST by digigram delivers one stereo source (or two mono sources) over IP, and can be used in legacy analog, AES/EBU and all-IP (AES, Ravenna and Livewire standard mode) audio infrastructures.
- The Barix XLINK DUAL by digigram provides two codecs in one, delivering two stereo sources (or four mono sources) over IP. It can be used in analogue, AES/EBU and all-IP environments.
- The Barix XLINK AES67 by digigram supports up to eight stereo inputs and outputs and is purpose-built for all-IP audio workflows.
- The Barix XLINK LE by digigram is a streamlined stereo audio IP codec that is ideal for single-protocol streaming.
- All Barix XLINK by digigram codecs feature redundant dual streaming technology, enabling reliable IP delivery over inexpensive IP connectivity. Four network ports on each unit enable full separation of IP traffic between local IP audio, dual streaming and remote management, while redundant internal power supplies ensure maximum reliability. Front-panel LEDs and VU meters allow fast and easy status monitoring, augmented by an LCD display and keypad on the ST, DUAL and AES67 configurations. The codecs' powerful hardware platform and advanced processing engine enable simultaneous multi-format encoding on all four models, plus multi-protocol streaming on all but the LE version.

Visit [www.barix.com](http://www.barix.com) and [www.digigram.com](http://www.digigram.com)

## Logitek Introduces mixIT AoIP Console

**LOGITEK HAS INTRODUCED MIXIT**, a compact AoIP audio console. mixIT works in conjunction with Logitek's JetStream Mini and JetStream Plus routers as well as the new Jet-67 AES-67 engine.

Designed for broadcast applications, the mixIT incorporates 12 faders into a tabletop enclosure. As with Logitek's Helix consoles, mixIT provides metering, source selection and scene selects via two 7-inch



touchscreens above the faders. On-board router widgets enable easy selection of transmission, recording or codec feeds. Controls are also provided for talkback to Studio / Remote, Monitor (control room, studio and headphone) and the console's built-in cue speaker. A program meter simplifies operation by providing indicators for 'too high / too low', enabling at-a-glance setting of optimum levels.

"The mixIT beautifully complements our Helix line by bringing some of its most popular features to a compact, less expensive form factor," said Tag Borland, Logitek President. "Users today are completely familiar with control via touchscreen, and those touchscreens bring both intuitive operation and an uncluttered surface to the studio."

Visit <https://logitekaudio.com>



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## MediaHub Embraces Channel Agility with Grass Valley

**LEADING AUSTRALIA BROADCAST SERVICES PROVIDER**, MediaHub Australia, has turned to long-time collaborator Grass Valley to help optimise its operations to easily deliver highly adaptive services and transition to a bespoke business model.

Building on an existing SLA agreement, Grass Valley created a bespoke package, delivering support for all MediaHub Australia's equipment on a per-channel basis. The new deal moves from support based on capital purchases, to one based on channel count. Thanks to this new framework, MediaHub Australia can deliver a more flexible service offering to its customers – from adding a new streaming service or a linear channel to on-demand or mobile app-based access to content.

"Our close working relationship over many years has given Grass Valley an in-depth knowledge of how our operation works. This valuable insight, together with its market leading solutions, is why Grass Valley is strongly positioned to help prime our business to meet any challenge the market throws at us," said Alan Sweeney, CEO at MediaHub. "We pride ourselves in leading the way when it comes to broadcast service provision and always strive to keep our operation at the cutting edge. Thanks to



MediaHub Australia CEO Alan Sweeney (centre) with Tim Ordaz, SVP, Global Services & Support, and Arlene Campbell, SVP of Global Sales, at Grass Valley

Grass Valley, we have cemented our position as the market leaders with a radical new approach that keeps us and our customers one step ahead of the ever-shifting topography of the media industry."

Grass Valley custom designed workflows to meet the MediaHub Australia's unique needs. All the channels handled by MediaHub Australia's facility are controlled by Grass Valley's Morpheus Automation and server playout system.

"With consumers firmly taking charge of their content engagement, broadcasters, media organizations and service providers need the agility to quickly respond to what audiences demand," said Ward Hansford, vice president sales, Oceania at

Grass Valley. "This project with MediaHub Australia perfectly illustrates how we can help service providers re-shape their business to stay ahead in today's fast shifting mediascape. The agreement delivers the increased flexibility, scalability and agility needed for MediaHub Australia to transition to a per channel count model MediaHub sets the high watermark for cutting edge broadcast service provision and we are incredibly proud that the company has once again turned to Grass Valley at this critical period in its evolution."

Visit [www.grassvalley.com](http://www.grassvalley.com) and [www.mediahubaustralia.com.au](http://www.mediahubaustralia.com.au)

## Seven Optimises Video Delivery with Brightcove's Rules

**BRIGHTCOVE INC., THE GLOBAL PROVIDER** of cloud services for video, has announced that Seven West Media (SWM) has implemented Brightcove's Delivery Rules across 7plus, the video on-demand and catch-up TV service run by the Seven Network. This makes the media organisation the first in the world to take advantage of this new feature, allowing them to deliver content more efficiently and cost effectively.

Delivery Rules is a feature of Brightcove's Dynamic Delivery that allows publishers to create a range of custom rules for how their video content is being delivered on a more granular basis than ever before. Content delivery rules can be set and customised according to specific business or technical needs, addressing a range of objectives such as cost savings, user experience improvements, and quality optimisations.

For SWM, the first use case of Delivery Rules is to enable the media organisation to switch between different Content Delivery Networks (CDN) based on content priority. This optimises the content delivery method for them whilst ensuring cost saving efficiencies across the business. In addition, Delivery Rules enables SWM to switch CDNs seamlessly to prevent a

single point of failure.

Darren Kerry, Director of Digital

Product and Technology at SWM, says, "Brightcove's Delivery Rules enables us to deliver the best possible viewing experience by allowing us to set custom rules for how the content on 7plus is being delivered. Using Delivery Rules for CDN, switching is just the start. Looking ahead, I'm excited as to what else we can achieve with Delivery Rules such as tailoring video renditions to devices and targeting HD to users that sign in."

Mark Stanton, Vice President, Australia and New Zealand at Brightcove, commented, "CDN and delivery strategies are top of mind for many of our customers. Delivery Rules solves this by offering a set of tools to optimise content delivery in line with business requirements. Giving customers the granular control over delivery is game changing and addresses a number of commercial and technical pain points. We're excited to help SWM explore cost saving options while ensuring the best possible experience for their viewers, regardless of where they are and what device they are using."

Visit [www.brightcove.com](http://www.brightcove.com)



## SBS World Movies Goes Free-to-Air

**AUSTRALIAN MULTICULTURAL BROADCASTER**

**SBS** has announced that it will be bringing a channel dedicated to international cinema to all Australians with the launch of SBS World Movies free-to-air and in HD, from 1 July 2019.

The dedicated 24-hour channel will feature a diverse range of movies reaching all corners of the globe, building on SBS's long legacy as the home of distinctive and multilingual films, including almost 25 years of World Movies' previous incarnation as an offering on subscription services.

At least half the titles on the channel will be in a language other than English, and feature everything from European arthouse films to the best of Bollywood cinema, romantic comedies to anime, award-winning favourites, acclaimed new releases, and more.

SBS Managing Director, James Taylor, said, "People come to SBS for content they don't find anywhere else. SBS World Movies has a proud tradition of showcasing the best international films, reflecting the diversity of global cinema, and we're excited to further evolve this offering and make it available to all Australians for free this July."

The channel will broadcast more than 700 films each year and also feature curated seasons of special programming to mark cultural events, festivals and celebrations such as Diwali, Lunar New Year, International Women's Day and Mardi Gras.

SBS World Movies will broadcast in HD on channel 32 alongside SBS's existing channels, SBS, SBS VICELAND, SBS Food and NITV. SBS World Movies will also be SBS's third HD channel.

Visit [www.sbs.com.au](http://www.sbs.com.au)





## Broadpeak Makes a DASH for OTT Delivery

### VIDEO DELIVERY PLATFORM DEVELOPER

Broadpeak says it envisions 'IPTV DASH' as the future for pay-TV operators. The concept takes the merging the worlds of traditional TV and connected devices to capitalise on their respective benefits while removing their drawbacks. The use of ABR formats to address all screens and all services (i.e., live, VOD, Cloud PVR) is the cornerstone of this approach. Through the implementation of multicast ABR in MPEG-DASH (or HLS) format, Broadpeak says operators can benefit from the greater flexibility offered by OTT combined with the scalability and low latency offered by IPTV. IPTV DASH supports a wide range of premium applications, including:

- **Cloud PVR:** With Broadpeak's solution, operators have a simple, scalable, and flexible approach to delivering time-shifted TV services, including start-over, catch-up TV and impulsive recording on all screens, with the possibility of recording and watching seamlessly with any device.
- **Ultra-low latency:** Broadpeak's nanoCDN multicast ABR solution enables ultra-low latency on every screen. New features for nanoCDN will be demonstrated at the 2019 NAB Show, such as Common Media File Format and chunked transfer encoding, which further decrease latency for OTT live streaming.
- **Device synchronisation:** Leveraging nanoCDN, operators can synchronise the devices that are receiving live content within a home network in ABR format in order to avoid echo effects that impact the user experience. This capability is especially useful in bars, restaurants, and common facilities, where several screens display the same content.
- **Server-side ad insertion:** Operators can quickly boost monetisation by deploying a CDN with first-class multiscreen Server-Side Ad Insertion (SSAI) capabilities, using manifest manipulation techniques that come together with ABR formats. At the 2019 NAB Show, Broadpeak will show how operators can deploy dynamic targeted advertising for live and VOD workflows, and how this technology can be used to deploy Emergency Alert System messages on all screens and on all services (including VOD).



At the recent 2019 NAB Show, Broadpeak demonstrated how it is actively participating in the definition of 5G standards and developing caching solutions and tools for optimising resource management allocation for mobile networks, using either multicast or unicast depending on the popularity of the content.

At the show, Broadpeak and Australian telco Telstra demonstrated an innovative solution that optimises video quality and efficiency over fixed and mobile networks. The joint solution combined Broadpeak's umbrellaCDN/ BkA100 analytics with Telstra's intelligence in mobile sports apps and real time network awareness.

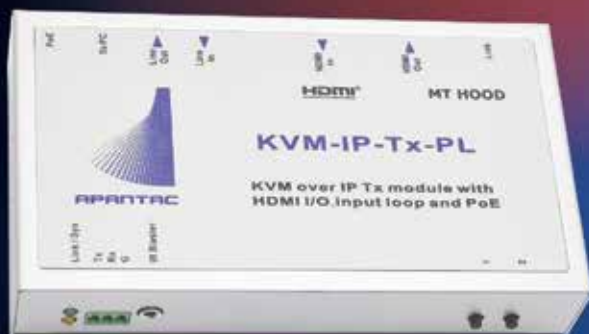
The solution dramatically increases video streaming quality and efficiency for telco operators while providing the best possible QoE for end users.

As well as its nanoCDN multicast ABR technology for satellite, the company also highlighted: the BkS350 Origin Server and Packager which improves multiscreen video delivery on managed or open internet networks; BroadCache Box which leverages local video-caching technology by deploying local caches into telecom or cable operators' networks; and its umbrellaCDN CDN selector which allows content providers to choose the best content delivery networks for streaming their content.

At the 2019 NAB Show, Broadpeak highlighted new video-analytics features and CDN Diversity, a new feature of umbrellaCDN that allows content providers to dynamically take into account the instantaneous quality of several CDNs as a service, combine their contributions, and deliver the content at a quality level exceeding what would be achievable with the best CDN alone.

Visit <https://broadpeak.tv>

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## Timing your move to IP Video

By Paul Dengate

### The move to IP

Many, if not most, types of signals are moving to converged IP networks. After being digitised into a synchronous data stream sometime in the past few decades, these streams are now being packetised into IP.

There's nothing really that magical about IP itself. But, being the backbone of the internet, it gives the ability to route packets to anywhere in the world, providing you have the bandwidth and link reliability to suit. Serial digital signals are arguably simpler and sometimes cheaper to work with, but just don't offer the same flexibility. Linking remote facilities in real-time is easier to achieve with a big IP pipe.

This paper doesn't consider the merits of serial-digital vs IP itself, making the assumption the reader is already somewhere on the path to Video-over-IP.

### Broadcast timing signals

Timing signals are essential for both analogue and digital media transport.

For broadcasters, time-of-day was traditionally delivered as SMPTE 12M Linear Time Code in the audio domain, and in various embedded transports.

Phase & frequency timing is still provided by an analogue waveform, either the traditional black-burst signal or more commonly today "tri-level" or HD sync.

These analogue sync signals require traditional distribution within a facility. A master clock or "sync pulse generator" is fed through a network of distribution amplifiers and coax cabling to reach every device that needs to be locked to "house sync". With the addition of GPS reference at the master clock(s), it is possible to provide a consistent phase & frequency between multiple sites, although traditionally frame synchronisers re-clock external signals on the way in the door.

### Timing over IP

With the move to packetised transport of video, it follows that the timing signals should also move into a switched or routed network.

It would make no sense to move video onto the network, but leave timing signals as separate cables to each node. Hence an IP-based timing signal was naturally required.

The Precision Timing Protocol (PTP) answers the need for a high-precision time source that can robustly be transported on both small and large networks.

The Precision Timing Protocol is a standard of the IEEE also known as 1588.

PTPv1 appeared as 1588-2002 with the PTPv2 standard in as 1588-2008 increasing the precision and flexibility.

The SMPTE 2059 standard defines the use of PTPv2 for synchronising video equipment on an IP network, and a PTP operating profile optimised for the needs of media synchronisation.

Being an industry standard protocol, it is widely used for telecommunications, power generation, industrial control, financial trading and other applications require precision timing. This benefits broadcasters by offering a large choice of suitable hardware and easy access to knowledge bases.

### Why PTP?

PTPv2 solves both needs of broadcast timing – time and frequency.

Time-of-day is an integral part of the PTP standard and can be delivered with much higher precision than NTP. This level of accuracy allows for event-timestamping to 100 nanoseconds or better. In contrast NTP is widely regarded as good to about 1 millisecond accuracy on average networks, so PTP is many orders of magnitude more accurate.

For broadcasting, event time-stamping and alignment is generally only down to the video frame. This represents around 20-40ms, depending on how and where you look at it. So, PTP isn't strictly a benefit here.

Where PTP becomes necessary for IP video is the precise phase & frequency synchronisation between both local and remote sources. Here, PTPv2 is an obvious choice. It has both the required precision to align video and audio samples and is an existing network standard. Support for PTP is widespread across many industries, so long-term access to a variety of master clocks and "boundary clock" switches is assured.

### How does PTP work?

A detailed examination of the PTP-standard is beyond the scope of this paper, and there is an abundance of technical reference material available online.

In short, PTP works by embedding hardware timestamps at the network level.



As the buffering and queueing time inside a network interface card or switch port is not known until the time the packet hits the wire, PTP hardware needs to be able to accurately identify that time. This is either done in hardware that can write a timestamp as the packet goes to the wire, or by using a subsequent Follow Up message containing the precise time of the first packet.

In addition to the hardware timestamping, PTP has the concept of Delay Request and Delay Response messages. These are exchanged between the master and slaves, and allow the network transport delay to be measured.

On small networks, a PTP grandmaster can provide reference to slave devices directly. As the network grows, the importance of PTP awareness in switching hardware becomes more relevant. This introduces the concept of a "boundary clock" which is a PTP-aware switch or router, able to act as an intermediate reference clock locked to the grandmaster. Boundary clocks allow the network hierarchy to support a large building or campus, without experiencing the degradation in timing precision which would otherwise occur because of switching and routing queues.

The Best Master Clock Algorithm looks after the election of the "master" clock, without the network administrator being concerned with complex configuration. A typical design would see a pair of GPS-referenced PTP grandmasters with PTP-aware "boundary clock" switches connecting each node.

### Meinberg PTP

Meinberg formed 40 years ago in the north of Germany, initially providing radio-controlled devices. This quickly moved into long-wave timing systems and GPS NTP servers.

Meinberg has been a champion of the move to PTP across industries such as power, finance, industrial control and, of course, broadcast. They are regular participants in IP Showcase events and have a deep technical and practical understanding of PTP.

Meinberg's Intelligent Modular Synchronisation platform has been designed to offer the ultimate flexibility in timing design. In a single appliance you can combine NTP, PTP, audio word-clock and video sync. This allows a hybrid migration to IP, ensuring traditional serial digital signals are clocked to the same central reference.

The IMS range also offers great flexibility in system architecture, with GPS, multi-constellation GNSS and PTP available as incoming timing sources. With this you can design a robust hierarchy of master clocks as well as tie in traditional video SPGs to assist with migration to IP.

### Local Support

Through Meinberg and OnAir Solutions in ANZ you have access to advice and assistance with solution design and implementation, as well as local demonstration equipment and support spares. Meinberg solutions have recently been deployed to ABC, NEP, MediaWorks and Nova Entertainment.

Paul Dengate is the Managing Director of OnAir Solutions, representing Meinberg in Australia & New Zealand since 2010. For more information see <https://onair.com.au/products/meinberg/>



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## Fujinon Cine Lenses



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## Fujinon Cine Lenses



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CommunicAsia brings together next-gen

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Led by the chairman of the ASEAN Smart City Network (SCN), in cooperation with country partners such as China, South Korea, Japan and Singapore, and the ASEAN Smart Cities Communities (SCC), 2019 will see a new Smart Cities Arena at ConnectTechAsia.

Also making a debut at this year's event is the 5G Experience – a dedicated platform with multiple live demo zones on how 5G will translate to new opportunities and possibilities for enterprises. Attendees can also learn how 5G-connected drones, for example, will make a difference for businesses.

### ConnectTechAsia Summit

The ConnectTechAsia Summit, themed Shaping Future Societies, will bring together thought leaders from infocomm, technology, media and enterprises to discuss what is driving digital

transformation in the region.

The keynote by Harriet Green, CEO and Chairman of IBM Asia Pacific, will explore how the shift from digital experimentation to scale adoption of new technologies will fundamentally alter the value chains of entire industries and change the way we work and live.

Key industry leaders at ConnectTechAsia2019 Summit will also include: Dr Min Sun, Chief Artificial Intelligence (AI) Scientist, Appier; Muhamed Zilkhairilishamuddin, Assistant Vice President, OTT Principal Engineer, Astro; Dr Keeratpal Singh, Chief Data Scientist, Axiata; Ong Geok Chwee, CEO, Bridge Alliance; Cheryl Goh, Group Vice President of Marketing, Grab; Dr David Soldani, CTO, Huawei Australia; Jason Little, Chief Information Officer – SEA, Manulife; Ian Yip, Chief Technology Officer, McAfee Asia Pacific; Gustavo Fuchs, General Manager – Cloud & Solutions (Asia), Microsoft; Krishnan Rajagopalan, Director of Payments APAC, Netflix; Seizo Onoe, President of DOCOMO Technology and Chief Technology Architect, NTT DoCoMo; and Andreas Spanner, Chief Architect (ANZ), Red Hat

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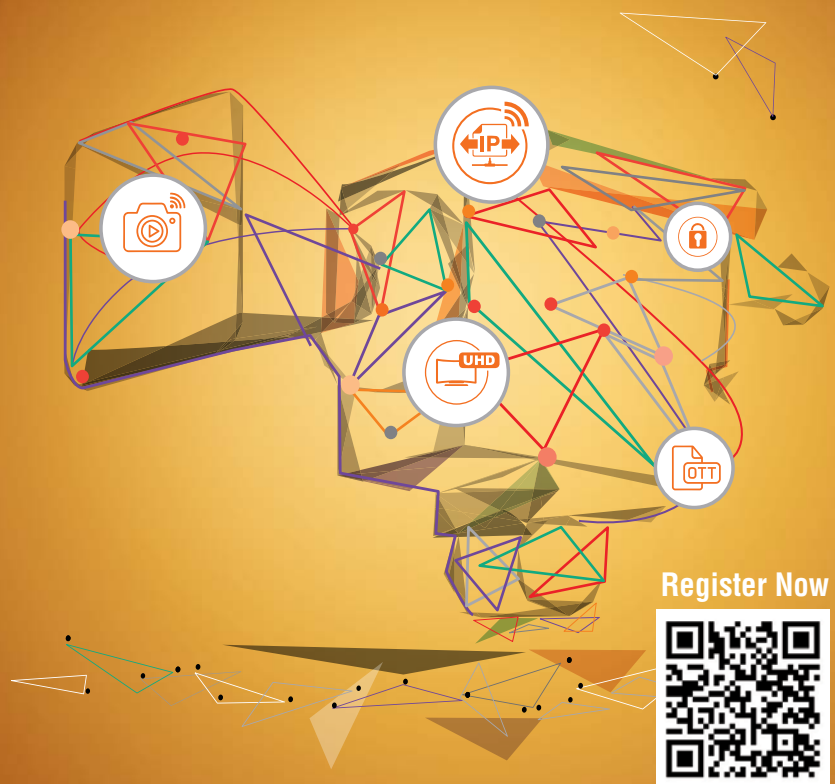


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